University of Alberta

Evaluation of an Intensive, Home-based Program For Adolescents in Conflict with the Law

by

Richard Alan Enns ©

A thesis submitted to the Faculty of Graduate Studies and Research in
partial fulfillment of the
requirements for the degree of Doctor of Philosophy

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Evaluation of an Intensive, Home-based Program for Adolescents in Conflict with the Law submitted by Richard Alan Enns in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

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ABSTRACT

Thirty-eight male adolescents in conflict with the law were assigned to a treatment group and received intensive, home-based services that combined relapse prevention training, and family and network interventions. Results following treatment were compared to thirty-one adolescents in a comparison group who received services-as-usual, including cognitive-behavioural therapy and individual and family therapy, at an existing outpatient clinic for young offenders.

Criminal and antisocial behaviours, and individual and family factors associated with delinquency, were measured at pre- and post-treatment. Participants were similar at intake on verbal proficiency, average age of first arrest, total number of convictions, family functioning, and psychiatric and social symptomatology. Comparison group adolescents were 6 months older at intake, with a higher incidence of self-report delinquency. Both differences were significant. Parents in the two groups were similar on measures of family functioning at intake. Parents in the treatment group scored significantly lower than parents in the comparison group on a measure of social symptomatology.

It was predicted that both groups would report improvement following treatment but that adolescents in the home-based program would report greater improvements in individual and family functioning, and a more significant reduction in criminal behaviours following treatment. Sixty-two adolescents were followed for 6 months following treatment. Contrary to expectations, adolescents in the treatment group could not be differentiated in a statistically significant manner on recidivism from adolescents in the comparison group. However, the recidivism rate for both groups of adolescents compared favorably to those reported for other effective treatment programs and was significantly lower than a hypothesized recidivism rate of 50 percent following treatment. No positive and significant treatment effects were noted on measures of individual functioning except for a decrease in psychotic symptoms for the comparison group. Significant improvements were noted for parents on a number of family processes, but no significant treatment effects emerged.

Findings suggest that the services were equally effective in reducing recidivism and outcomes compared favourably with evaluations of similar approaches elsewhere. Research is required to determine whether certain offenders are most likely to benefit from similar in-home versus clinic-based treatment, and whether treatment would be equally effective with female adolescent offenders.

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CHAPTER 1

OVERVIEW

1.1 Introduction

Public concern in Canada regarding youth crime remains high (Sinclair & Dell, 1999), even though official data indicate that the number of adolescents appearing before the courts on criminal charges has dropped steadily from its most recent peak in 1991-92 (Statistics Canada, 1999). Public reaction may arise in part from sensational cases that obscure the nature of adolescent offending in the majority of cases, and conceal the factors that are thought to place adolescents at heightened risk for offending. Adolescent offending has continued to garner the attention of professionals because of the negative adult outcomes associated with severe and longstanding antisocial and criminal behaviour (Rutter, 1997; Zoccolillo, Pickles, Quinton, & Rutter, 1992), and the high costs associated with criminal activity and incarceration (Brown, 2000; Cohen, 1998; Mendel, 2000).

In the 1998-99 reporting period, a total of 63,426 adolescents between the ages of 12 and 17 years appeared in youth court, on a total of 203,229 charges laid under Canada's federal *Young Offenders Act* (*YOA*; R.S.C. 1985, c. Y-1). This figure represents approximately 2.6% of the population for that age group at the time. Males accounted for 51% of the population of this age group but were named in 78% of all new charges (Statistics Canada, 1999). Participation rates, as measured by the number of new cases in 1999, varied noticeably by age. Approximately 1.5% of all

12-year-olds were accused of either property or violent offences, while about 4.8% of 15 to 18-year-olds were similarly charged (Statistics Canada, 1999a).

In Alberta, during the same period, approximately 3.3% (n = 8,698) of the adolescent population between the ages of 12 and 17 (n = 261,056) were called to court on a total of 29,711 criminal charges. Alberta averaged 671 new cases in youth court per 10,000 adolescents between 12 and 17 years of age, 154% higher than the national average of 435 cases per 10,000. Adolescent males are also over-represented in the Alberta data, accounting for 51% of the population in the 12 to 17 year age group, but 76% of all new cases (Statistics Canada, 1999).

Despite the apparently higher rate of criminal activity in Alberta, the rate of incarceration after sentencing was lower in Alberta than the Canadian average. Across Canada, in 1998-99, approximately 35% of all dispositions were for open or secure custody. In Alberta, for the same period, 26% of the dispositions resulted in custodial time. Similarly, across Canada, probation was given in 48% of all cases that resulted in a finding of guilt, and alternative sanctions, including fines, compensation, community service, and conditional or absolute discharge, were ordered in 17% of all cases. During the same period in Alberta, probation was ordered in 40% of all cases and alternative dispositions were granted 33% of the time (Statistics Canada, 1999).

The actual number of adolescents between the ages of 12 and 17 years of age engaged in criminal activity, as opposed to the percentages of the population, warrants some additional consideration. Across Canada, over 63,000 adolescents between the ages of 12 and 17 were charged under the Young Offenders Act in the one year reporting period that ended in 1999. In Alberta, 8,698 youth were charged under the act during the same period. If apportioned according to the distribution of the population across Alberta, it can be estimated that approximately 3,650 of the adolescents charged lived either in or near the major centres of Edmonton and Calgary respectively, since each centre accounts for approximately 42% of the provincial population (Statistics Canada, 1996), while the remainder of the adolescents who were charged would reside in smaller urban and rural centres across the province.

The legal community defines adolescents who are arrested or convicted as delinquents or young offenders. In addition to their legal status, many of these individuals meet the diagnostic criteria for Conduct Disorder (CD) as defined in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 1994). Individuals diagnosed with CD can be further delineated according to childhood- versus adolescent-onset type.

Individuals diagnosed with childhood-onset CD typically begin to engage in antisocial behaviours at an early age and are not likely to desist, as they approach adulthood, without significant interventions. Adolescents in this group are disproportionately represented in official arrest records, and often report varied and extensive criminal histories with arrests from a young age (Farrington, 1987). Individuals in this category are considered to be at significantly greater risk for negative outcomes in adulthood than individuals who are never diagnosed with CD, or those who are diagnosed with adolescent-onset CD (Moffitt, 1993). Adolescents diagnosed with adolescent-onset CD may be more amenable to treatment than individuals diagnosed with childhood-onset (Moffitt, 1993), but they are still more likely to have concurrent mental health problems, and experience negative outcomes in adulthood (Lambert, Wahler, Andrade, & Bickman, 2001), than adolescents who are not diagnosed.

Researchers have begun to evaluate treatment programs for adolescents diagnosed with CD, and those in conflict with the law. Parent-management training, and cognitive problem-solving skills training are considered to be effective for the treatment of adolescents with CD (Kazdin, 2000). The efficacy of functional family therapy (Robbins, Alexander, & Turner, 2000) and structural family therapy (Swenson, Henggeler, & Schoenwald, 2001) for this population has also been established, and there is emerging support for the use of solution-focused and narrative approaches for adolescents with CD (Gingerich & Eisengart, 2000; Sandberg et al., 1997).

In addition, a series of literature reviews and meta-analyses conducted over the past 15 years has shown that treatment programs for adolescents in conflict with the law are also effective (e.g., Andrews et al., 1990; Dowden & Andrews, 1999a, 1999b, 2000; Gendreau, 1996; Gendreau & Andrews, 1990; Gendreau & Ross, 1979, 1987; Lipsey, 1992, 1995, 1999; Lipsey & Wilson, 1998; Lösel, 1995, 1996). Cognitive-behavioural, skill-oriented and multi-modal programs, and individual counselling, appear to be most effective (e.g., Lipsey, 1992, 1995; Lipsey & Wilson, 1998; Lösel, 1995). In addition, evidence supports the use of programs that consider criminogenic need, risk, and responsivity (e.g., Andrews, 1995; Andrews et al., 1990; Dowden & Andrews, 1999a, 1999b, 2000). Multisystemic therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998) has recently been identified as an exemplary form of treatment for serious delinquents (Cullen & Gendreau, 2000; Mendel, 2000). In addition, relapse prevention training, and similar programs, that help offenders identify factors that place them at risk to offend, and encourage them to identify and implement alternative, prosocial coping strategies, are considered to be promising for treatment gains and maintenance (Cullen & Gendreau, 2000; Gendreau & Coggin, 1996; Lösel, 1996).

1.2 Purpose of the Dissertation

Alberta Hospital Edmonton is a psychiatric facility situated in Edmonton, Alberta, Canada. It is funded by the provincial ministry of Health and Wellness and has offered inpatient and outpatient programs for adolescents in conflict with the law, dating back to the opening of the Turningpoint inpatient program in 1986, and the Centerpoint outpatient program in 1993 (see Appendix 1). Beginning in the mid-1990s, the delivery structure for mental health services in the province of Alberta changed and the Alberta Mental Health Board eventually assumed responsibility for coordinating the development and delivery of mental health programs across the entire province. Consistent with the Hospital's original commitment to provide services to adolescents in conflict with the law, additional funds were granted on a time-limited basis to design and evaluate supplemental outpatient programs for adolescents in conflict with the law.

As a result an intensive, home-based program was developed and delivered, and the results achieved by participants in the home-based program were compared to those achieved by participants receiving service-as-usual at the existing outpatient clinic. Intensive, home-based programs that have been evaluated elsewhere have been shown to be more effective than conventional therapies for this population (Kazdin, 2000), and it was expected that adolescents and their parents who received the intensive, home-based treatment described in this dissertation would experience more favourable outcomes than those who received the usual services at the clinic. This dissertation describes the home-based program that was implemented, and examines the results achieved by adolescents who received this program, compared to those who received services-as-usual in the clinic.

Adolescents serving a period of probation may be referred to the Centerpoint outpatient program for treatment by their probation officer, if they have a counselling condition on their probation order. Adolescent males referred to the program were eligible to participate in the research. Adolescents in the treatment group who received the intensive, home-based program were compared on measures of individual and family functioning, as well as criminal history, to a comparison group of adolescents who received services-as-usual at the Centerpoint program. Individuals in the two groups were compared again, following treatment, on the same measures of individual and family functioning, as well as recidivism. Parents or guardians of the adolescents were also compared on measures of individual and family functioning at the beginning and the end of treatment.

Five questions were addressed in this research:

1. Did adolescents who received intensive, home-based services demonstrate better outcomes than adolescents in a comparison group who received services-as-usual in a clinic setting, on measures of recidivism?
2. Did adolescents who received intensive, home-based services demonstrate better outcomes than adolescents in a comparison group who received services-as-usual in a clinic setting, on measures of individual and family functioning?
3. Did parents of adolescents in the intensive, home-based program report better outcomes than parents of adolescents receiving services-as-usual in a clinic setting, on measures of family and individual functioning following treatment?
4. Did selected variables at pre- and post-treatment intervals predict recidivism at 6 months?
5. If treatment effects are evident for the treatment group, can these be explained as a function of the integrated home-based intervention?

1.3 Organization of the Dissertation

A discussion of delinquency within the broader context of adolescent development is presented in Chapter 2. The relationship between delinquency and CD is considered, and the differences between childhood- and adolescent-onset CD are highlighted. Negative outcomes associated with CD and delinquency, and risk factors associated with these disturbances in behaviour, are discussed. Promising treatments for this group of adolescents are identified through a review of the most effective treatments for adolescents with CD and a review of the literature pertaining to the treatment of juvenile delinquents.

A description of the participants, the methods that were used to recruit them, and the means for obtaining consent, are described in Chapter 3. The adolescents participating in this research are compared to other samples of young offenders with reference to psychological and psychiatric characteristics. The intensive, home-based intervention is described in detail and a description of the usual services provided in the Centerpoint program is given. The instruments that were used to assess the adolescent participants and their parents at intake, and following treatment, are also identified and data analysis procedures are described.

Data comparing adolescents and parents in the treatment and comparison groups at intake are presented in Chapter 4. Adolescents were compared at intake by age of first conviction, age at time of referral, verbal proficiency, and number and type of convictions. In addition, adolescents in both groups, and their parents or guardians, were compared at intake on measures of individual and family functioning. Equivalent and non-equivalent findings were examined with reference to their implications for evaluating treatment results.

Data obtained at pre- and post-treatment intervals are presented in Chapter 5. Between- and within-group differences were examined for adolescents and parents in both groups in order to evaluate the relative effects of treatment. Official criminal activity in the 6 months following treatment is also presented for adolescents in both groups. Participant ratings of therapist characteristics and personal motivation are presented and an analysis of the correlation between recidivism after 6 months and selected pre- and post-treatment variables is conducted.

A discussion of the findings is presented in Chapter 6, with reference to the five questions addressed in the dissertation and the wider literature. Implications of the findings, with reference to the provision of outpatient services to young offenders in the Edmonton region are considered. Limitations of the research, and directions for future research are presented.

1.4 Summary

This dissertation describes an intensive, home-based program that was offered to adolescents in conflict with the law, and their families. Results achieved by participants in the home-based program were compared to those achieved by participants who received services-as-usual at an existing outpatient clinic for young offenders. Based upon results achieved for similar programs elsewhere, it was expected that participants in the home-based program would demonstrate significantly better outcomes following treatment, as measured by recidivism, individual functioning, and family functioning, than participants who received services-as-usual in an existing clinic.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Introduction

Delinquency is considered within the broader context of adolescent development, in this chapter. The relationship between delinquency and Conduct Disorder (CD) is considered, and the differential effects of childhood- versus adolescent-onset CD for development are examined. Although some involvement in antisocial behaviour is considered to be normative in adolescence, adolescents who are diagnosed with CD, and those who are arrested or incarcerated, are considered to be at greater risk for negative outcomes in adulthood than their peers who are not diagnosed or arrested. The risk for negative outcomes in adulthood increases further if individuals meet the diagnostic criteria for childhood-onset CD. The risk factors associated with early-onset conduct problems, as well as serious antisocial and criminal behaviours in adolescence, are identified, and promising treatments for this group of adolescents are reviewed.

2.2 Adolescent Development

Although the biological changes associated with puberty have been acknowledged for centuries, adolescence, as a particular stage of individual development, has only been recognized since about the middle of the 19th century (Keniston, 1971). Zaretsky (1976) suggested that adolescence acquired meaning only as the prevailing notions of childhood began to change. By the end of the 19th century childhood was regarded as a period of indulgence, rather than a time of preparation for adulthood, and adolescence emerged as a period of transition between the pleasures of childhood and the responsibilities of the adult world.

Hall's two-volume text on adolescence in 1904 represented one of the first attempts to define adolescence in psychological terms (Zimmerman, 1990) and set the terms of the discussion for much of the 20th century. Hall compared the development of the individual to the historical development of society from primitive to civilized culture, and equated adolescence with primitive forms of society. Hall characterized adolescence as a period of psychological turmoil and instability, and scholars throughout the 20th century have often either reinforced or challenged this description. Subsequent theories of adolescent development have considered Hall's notion of turmoil and instability, and have emphasized sexual and biological changes, as well as cognitive and psychological development.

Freud (1965) described adolescence as a time of sexual conflict and resolution. According to Freud, hormonal changes in puberty bring long dormant incestuous wishes to the fore as the developing adolescent attempts to disengage from childhood attachments and preoccupations with the opposite-sex parent. Initially, the adolescent redirects libidinal energy to same-sex peers, and subsequently to opposite-sex peers. According to Freud, the turmoil and distress associated with adolescence results from the alternating focus on parents, same- and opposite-sex peers, and self, associated with sexual conflicts. Ideally, adolescents consolidate their heterosexuality as incestuous and homosexual urges recede. The development of formal-operational thought during adolescence assists in the resolution of sexual conflicts through the use of defense mechanisms, the elaboration of conscience, and the development of ideals. Delinquent behaviour at this stage of development may reflect the adolescent's desire to establish ethical codes that do not merely duplicate parental standards.

Piaget (1983) considered cognitive development from infancy and concluded that individuals typically progress through a series of discrete stages culminating in the development of formal-operational thought in adolescence and adulthood. He described formal-operational thought as the ability to think in abstract, logical, and systematic terms. Piaget noted that competence in formal-operational thought continues to develop through adolescence and adulthood. Adolescents also begin to exhibit a greater knowledge base, are able to devise and use a wider array of strategies to acquire and apply knowledge, and exhibit a greater understanding and tolerance for the relativity of knowledge (Bloch, 1995).

Erikson (1968) enumerated a series of psychosocial crises based upon Freud's theory of psychosexual development. He identified eight stages of development and basic tasks associated with each stage of development. He stated that the formation of a personal identity represented the primary task of adolescence. This task coincides with the onset of puberty and is organized around the need to prepare for participation and work in the adult world. According to Erikson, females must prepare to assume the responsibilities and obligations of motherhood, while males must prepare to engage in the full range of legitimate and productive activities that characterize male involvement outside of the home. Under the best circumstances, adolescent identity will be consistent with the accumulated experiences and perceptions of childhood, and the opportunities offered by society. Role confusion and anomie will result if this stage is not resolved successfully. If role confusion and anomie result, the adolescent is generally ill prepared to assume adult responsibilities and privileges.

Preto (1988) agreed that the formation of a personal identity is a critical feature of adolescent development but suggested that adolescents face a number of other critical tasks beginning at puberty. Her analysis of these tasks emphasized the interaction between adolescent development and family development. She referred to the emergence and expression of sexual interests during adolescence and stated that all members of the family are required to deal with this issue. She suggested that parents who are comfortable with their own sexuality are more likely to accept and support adolescents during this time. However, the possibility of a positive sexual self-concept is diminished if the adolescent's quest for sexuality is denied or rejected, and the likelihood of negative outcomes, including promiscuity and self-endangering behaviour, may increase as a result.

Erikson's emphasis on identity development has influenced subsequent research into the development of self-schemas and autobiographical reasoning. Horowitz (1998) defined a self-schema as an "organized compendium" of meanings that a person has about himself or herself. Self-schemas can include various beliefs about self-attributes. Multiple self-schemas can exist concurrently, and may be organized around relationships, activities, or circumstances. These various self-schemas are organized through supraordinate self-schemas. Multiple supraordinate self-schemas may exist and can be nested in one integrated self-organization. Self-schemas may be blended smoothly within a supraordinate self-schema. When this occurs the supraordinate system promotes "a seamless, resilient, and situationally appropriate shifting of states" (Horowitz, 1998, p. 96). If self-schemas are not integrated at the supraordinate level, or if they are conflicted and the contradictions are not balanced within the supraordinate self-schema, individuals may be conflicted and exhibit explosive shifts in nature.

Early childhood experiences help to establish an initial set of self-schemas. Additional schemas develop as the child ages, and biological and social changes precipitate the development of additional self-schemas in adolescence. On the biological level, adolescents must integrate hormonal changes and the development of secondary sex characteristics. Socially, adolescents begin to withdraw from their families and focus on their peers, and peer group affiliations. Adolescents may be able to integrate various self-schemas related to the demands and circumstances of adolescence, and thus maintain a coherent sense-of-self, or they may experience identity diffusion if certain self-schemas predominate or are not sufficiently integrated at the supraordinate level.

Numerous self-schemas may be integrated into various supraordinate self-schemas by late adolescence. However, some adolescents may have difficulty constructing and integrating self-schemas for psychological reasons including troubled childhood experiences and damaged self-concepts from childhood. Others may lack appropriate role models and may be unable to draw upon the teachings or influence of others as they attempt to develop and integrate various self-schemas.

These adolescents frequently lack appropriate emotional and behavioural repertoires and may rely upon destructive or negative behaviours to deal with daily circumstances.

Erikson's (1968) emphasis on identity formation in adolescence has also been cited by those who argue that a coherent life story begins to emerge in adolescence (McAdams, 1996). Habermas and Bluck (2000) noted that the development of life stories in adolescence has not been researched although it is believed that, by the age of 10, children can organize temporally proximal events into a goal-dominated story, and adults are able to organize temporally and thematically disparate events into a coherent narrative spanning an entire life. Habermas and Bluck argued that the cognitive tools and the personal and social motivations necessary to create life stories actually emerge in adolescence.

According to Habermas and Bluck (2000), life stories consist of life narratives and autobiographical reasoning. The former involves specific recountings of life events that are embedded in time and context. Autobiographical reasoning is a "process of self-reflective thinking or talking about the personal past that involves forming links between elements of one's life and the self in an attempt to relate one's personal past and present" (Habermas & Bluck, 2000, p. 749). Autobiographical reasoning involves the generation of links between the present self and the past self, past events, and past circumstances. Habermas and Bluck (2000) argued that adolescents are especially likely to generate life stories. They noted that the major developmental tasks of adolescence involve commitments to significant others, the development of a gender identity and sexual orientation, commitment to basic values, and educational and vocational pursuits. Further, once consolidated, adolescent identity typically extends into adult and later life. Life stories are most likely constructed at times of transition, such as adolescence, or in times of distress or trauma, and are thought to have a potentially therapeutic effect by conferring meaning, insight, or other epistemological benefits upon even the most adverse of circumstances. Erikson (1968) also noted that identity formation involved the exploration of various possible identities coincident with a review of previous beliefs and self-perceptions, a process that resembles the formation of life stories. Failure to construct life stories during adolescence, if indeed such is normative, may result in a failure to successfully negotiate the adolescent stage of development.

2.3 Adolescent Psychopathology

2.3.1 Introduction

Moffitt (1993) reported that a majority of adolescents engage in some types of antisocial and delinquent behaviours, with a peak occurring around 16 or 17 years of age. Although some involvement in antisocial behaviour during adolescence may be normative, arrests and incarcerations are not (Statistics Canada, 1999). Adolescents who are arrested or incarcerated differ in this respect from the majority of their peers. They may be further distinguished if they meet the criteria for CD, because most adolescents are not diagnosed with this disorder, despite the prevalence of antisocial behaviours in adolescence (Campbell, Shaw, & Gilliom, 2000). Individuals who are diagnosed with CD are also likely to receive at least one other diagnosis as they age

(Lambert et al., 2001). Adolescents who are arrested and diagnosed with childhood-onset type CD are further removed from the majority of their peers who are never diagnosed with CD.

Freud (1965) noted that abnormally high levels of delinquent activity might reflect the ego's failure to properly restrain the id and the impulses driven by the pleasure principle. Similarly, high levels of delinquent activity may reflect the absence of formal-operational cognitive processes identified by Piaget (1983) and associated with effective problem-solving, reflection, and perspective-taking; or a failure to negotiate Erikson's (1968) stage of identity formation and to eventually assume productive and proscribed adult roles. Sustained involvement in antisocial and delinquent behaviours may also indicate a failure to develop and integrate multiple self-schemas (Horowitz, 1998), or to alter negative developmental trajectories, and initiate or consolidate healthy development, through the development of autobiographical narrative (Habermas & Bluck, 2000). Finally, Preto's (1988) emphasis on the interaction between adolescent and family development suggests that sustained involvement in delinquent and antisocial activity may represent a failure of the family system to support adolescents at this stage of development.

The literature regarding CD, including childhood- and adolescent-onset types, and the array of risk factors associated with CD, will be reviewed in the following section. Various treatments for CD are described and the literature regarding their efficacy is reviewed. The effect of correctional programs offered to incarcerated adolescents is also considered.

2.3.2 Conduct Disorder

Adolescents in conflict with the law typically meet the diagnostic criteria for CD, which is defined in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) as a persistent and repetitive pattern of behaviour in which the basic rights of others and major age-appropriate societal norms or rules are violated. The DSM-IV identifies 15 types of antisocial behaviours that are grouped into four categories: (a) aggression to people and animals, (b) destruction of property, (c) deceitfulness or theft, and (d) serious violation of rules. In order to be diagnosed with CD an individual must exhibit three or more behaviours from any of the four categories in the preceding 12 months, with at least one behaviour present in the past 6 months. These behaviours must also cause clinically significant levels of impairment for the individual in social, academic, or occupational functioning. CD is one of the most frequently diagnosed conditions among children (DSM-IV, 1994; Rutter, Tizard, & Whitmore cited in Patterson, Dishion, & Chamberlain, 1993) and severe behaviour problems, consistent with those identified for the disorder, account for one-third to one-half of adolescent referrals to mental health professionals (Webster-Stratton & Dahl, 1995). The DSM-IV reports a prevalence of 6% to 16% in males under the age of 18 and 2% to 9% in females under 18 years-of-age.

Although the DSM-IV does not examine why the prevalence rate varies for males and females, Silverthorn and Frick (1999) stated that the prevalence of oppositional and defiant behaviours in girls prior to grade-school entry equals the prevalence reported for boys, but the incidence of antisocial behaviours declines among affected girls during elementary school years due to socialization and peer pressures. Zoccolillo, Tremblay, and Vitaro (1996) suggested that the DSM nomenclature is not sufficiently sensitive to identify girls with CD. They suggested that the diagnostic criteria be modified to allow for the inclusion of symptoms over a longer period of time, or for a diagnosis based upon the presence of two, rather than three, antisocial behaviours. They noted that adolescent and adult outcomes for girls with conduct problems are often as negative as the outcomes for boys and they argued that more sensitive criteria are needed in order to identify girls at risk.

The DSM-IV (1994) distinguishes between childhood-onset CD appearing before the age of 10 and adolescent-onset CD arising at age 10 or later. Individuals are considered to meet the criteria for childhood-onset type if at least one of the antisocial behaviours listed is present and persists from before the age of 10. This distinction is made because of the significantly poorer prognosis for individuals diagnosed with early- or childhood-onset CD.

Moffitt (1993) described life-course-persistent antisocial behaviour and adolescence-limited antisocial behaviour, and also stated that the timing and duration of antisocial behaviour is a defining feature in the natural development of the disorder. According to Moffitt, adolescent-onset individuals typically show few signs of behavioural or psychiatric disturbance prior to adolescence, and they begin to engage in antisocial behaviours only as they enter adolescence. Very few of these individuals continue their involvement in antisocial behaviours beyond adolescence, and most are never arrested or formally diagnosed with CD. Moffitt (1993) reported that more than 65% of adolescent males engage in some of the antisocial behaviours used to diagnose CD, and the prevalence of antisocial behaviour peaks sharply around 16 and 17 years of age. Moffitt suggested that these behaviours are normative and stated that the minority of adolescents that do not engage in these behaviours might be at risk for negative mental health outcomes if their abstinence results from pathological characteristics that preclude their involvement with peers.

A much smaller number of individuals demonstrate a history of behavioural and psychiatric problems from childhood and are described as life-course-persistent. These individuals are more likely to be diagnosed with CD as children and are considered to be at significantly greater risk for criminal and psychiatric problems in adulthood. While adolescence-limited antisocial behaviour may be normative, life-course-persistent antisocial behaviour and childhood-onset CD are considered to be pathological.

Robins (1978) reported that adults who engage in chronic antisocial behaviours and substance abuse have typically engaged in antisocial behaviours from an early age, or been diagnosed with CD as children. More recently Robins and Price (1991) reported that childhood conduct problems are associated with a wider range of adult problems including somatization, phobia, panic, obsessive-compulsive behaviour, depression, mania, and schizophrenia. Robins and Price noted that the number of self-reported childhood conduct problems predicted the severity and number of adult problems in a sample of 20,000 adults 18 years of age or older, although the effects were strongest for externalizing disorders in childhood. They also noted that the predictive power of childhood conduct problems was similar for males and females. Robins (1991) concluded that early and effective intervention with CD might reduce the adult rates of a broad range of disorders.

Zoccolillo et al. (1992) also considered whether CD predicts adult problems beyond Antisocial Personality Disorder (APD). They compared responses from a sample of 171 males and females who had resided in foster and residential care as children or adolescents to a sample of 83 males who had never been in care. The mean age of both groups was 26 years and all participants resided in economically deprived inner city neighborhoods, or had, prior to their time in care. Information about childhood behaviours was obtained directly from the participants, their parents, and official reports. They reported that approximately 40% of the participants in both groups were diagnosed with APD but approximately two-thirds of the remainder also experienced pervasive social difficulties in two or more areas of adult life including work, intimate and peer relationships, and parenting. The severity of difficulty was predicted by the extent of childhood conduct problems. They also noted that only a few conduct problems were necessary to predict social problems in adulthood and suggested that the threshold required to diagnose CD may be set too high.

Patterson and Chamberlain (1994) reported that individuals diagnosed with childhood-onset CD are more likely to be referred for mental health services and to raise children with similar problems. Finally, Chamberlain and Rosicky (1995) indicated that early-onset individuals are more likely to be the recipients, and eventually the perpetrators, of emotional and physical abuse, and are more likely than late-onset individuals to engage in long-term drug use and violent crime.

2.3.3 Risk Factors

Researchers have identified a number of factors associated with CD and serious delinquency. Parental, family, child, neighborhood, and peer factors are considered to be among the most salient factors. Andrews and Bonta (1998) reported that many of the noted risk factors could be used to explain individual variation in criminal behaviour and to provide the basis for psychologically informed and effective treatments. This literature is reviewed below.

2.3.3.1 Parenting and Family Factors Associated with Conduct Disorder and Delinquency

Parenting practices, including poor supervision and harsh discipline, have been implicated in the development of antisocial behaviours, and are considered to be among the most robust predictors of future antisocial and delinquent behaviour (Coughlin & Vuchinich, 1996; Patterson, 1993; Patterson, DeBarshye, & Ramsey, 1989). Inconsistent discipline and excessive use of punishment have also been cited as contributing factors to delinquency (Loeber & Stouthamer-Loeber, 1986).

Two interpretations are frequently offered to explain how these practices may be related to the emergence and maintenance of antisocial and delinquent behaviours (Patterson et al., 1989). Control theorists state that inept supervision and harsh discipline occur as a result of poor bonding between the parents and the child. The failure to bond appropriately contributes to the child's failure to identify with parental and societal values and to develop appropriate incentives or mechanisms for self-control. Social-interaction theorists state that the child learns to perform antisocial behaviour as a result of the significant parenting deficits that have been identified. According to this theory, the child learns to use aversive behaviours in order to terminate negative interactions with other family members, or to obtain goods or favors that parents may initially withhold. A consequent effect of these interactions is the parents' failure to notice or reward appropriate interactions so that children often develop both antisocial behaviours and poor social skills. Patterson et al. reported that these children frequently engage in more severe forms of antisocial behaviours, in a wider range of settings, as they get older.

Parental psychopathology has long been associated with higher rates of antisocial and criminal behaviour in children and adolescents (Frick et al., 1992). Farrington (1987) noted a high degree of intergenerational similarity for antisocial behaviour and criminality, and reported that the likelihood of CD is higher for children when one parent is diagnosed with APD. The risk increases for children when two parents are similarly diagnosed and holds for male and female children (Frick, 1994). Environmental and genetic factors have been implicated in the transmission of antisocial behaviours and genetic factors are thought to be particularly significant for childhood-onset CD (Ghodsian-Carpey & Baker, 1987). Parental isolation, schizophrenia, and depression are also thought to contribute to childhood conduct problems and delinquency through ineffective parenting, although schizophrenia and depression have also been associated with a wider range of negative outcomes in children (Downey & Coyne, 1990; Patterson, Reid, & Dishion, 1992). There is evidence that the effects of parental psychopathology can be mediated by effective parenting practices but adults with significant mental health problems are less likely to adopt or maintain appropriate parenting practices (Patterson et al., 1989).

Emotional processes within the family have also been shown to distinguish between violent and non-violent youth. Gorman-Smith, Tolan, Zelli, and Huesmann (1996) reported that delinquency is positively associated with disorganization in families, deviant beliefs, and poor communication. Similarly, Patterson et al. (1992) reported a positive association between delinquency and lack of closeness, warmth, and affection between parents and children. They stated that positive interactions including conversation, shared time, and common interests, have been shown to lower the probability of antisocial and delinquent behaviours. Maternal rejection has also been associated with an increased risk of early conduct problems and delinquency (Brennan & Raine, 1997). Although individual parental or family characteristics generally account for less than 20% of the variance in delinquency, multiple factors are commonly present in families of early and severe delinquents, and models combining multiple family variables have improved the prediction of antisocial and delinquent behaviour by 50% to 80% (Loeber & Stouthamer-Loeber, 1986)

2.3.3.2 Child Factors Associated with Conduct Disorder and Delinquency

Child factors associated with conduct problems and adolescent delinquency have also been identified. Tremblay et al. (1992) reported a direct causal link between disruptive behaviour in grade one and adolescent delinquent behaviour for boys, but not for girls, in a longitudinal study of 324 children from economically deprived sections of Montreal. Tremblay, Pihl, Vitaro, and Dobkin (1994) later explained that high impulsivity appeared to be the best predictor of adolescent delinquency, but that anxiety and reward dependence also contributed to prediction. Tremblay, Pagani-Kurtz, Mâsse, Vitaro, and Pihl (1995) argued that these personality dimensions appear to be established by kindergarten and males with this personality configuration can benefit from interventions that include social skills and parent-management training. Craig and Glick (1968) reported that future delinquency could be predicted from teacher ratings of student behaviour between grades one and three. West and Farrington (1973) indicated that student behaviour from ages 8 to 10 could be used to predict both official and self-reported delinquency.

Behaviours that predict delinquency and conduct problems for younger children continue to predict behaviour problems for older children. In addition, behaviours that emerge in later grades, including truancy and substance abuse, have been shown to predict delinquency. Osborn and West (1978) reported that the combination of heavy smoking, heavy drinking and drug use, sexual intercourse with more than one partner, fighting, and unemployment or absence from school, results in a 68% relative improvement over chance for the prediction of serious delinquency. Early first arrest and frequent involvement in delinquency are also associated with more serious and prolonged involvement in criminal activity in adulthood (Loeber & Dishion, 1983). The predictive value of these behaviours increases if they occur in a variety of settings and in relation to the age of onset, frequency, and variety of conduct problems (Loeber, 1991; Loeber & Dishion, 1983).

Lynam (1997) stated that reliance on behavioural markers and family-level factors alone, when identifying individuals at risk for future delinquency, frequently results in a high number of false positives. He reported that children who manifest problems with hyperactivity, impulsivity, and attention, concurrent with externalizing conduct problems, are at greatest risk, and the simultaneous presence of both behaviour sets significantly increases the accuracy of prediction (Lynam, 1996). He also noted that children who experienced both behaviour sets perform poorly on tests of cognitive functions, when compared to children with externalizing conduct problems only, or those with hyperactivity, impulsivity, and attention problems only. Lynam stated that potential delinquents can be more accurately identified when cognitive and neuropsychological characteristics are also considered (Lynam 1996, 1997).

Lynams' (1996, 1997) research extended earlier investigations into the neuropsychology of delinquency. Delinquent adolescents consistently demonstrate deficits of one-half standard deviation on full-scale IQ scores (Wilson & Herrnstein, 1985), with lower Verbal than Performance scores (Moffitt 1993; Prentice & Kelly, 1963). Both of these findings remain when race, social class, and family adversity are controlled, and are reported for delinquents identified through official records and by self-report (Caspi & Moffitt 1995; Moffitt & Silva, 1988). One explanation of the relationship between verbal deficiencies and delinquency is that individuals deficient in verbal skills may be less successful in self-regulating their behaviour through internal or verbal means. A second explanation is that the verbal deficits indicate neuropsychological deficits associated with executive function tasks including planning, attention, concentration, evaluation, problem-solving, and sequencing (Caspi & Moffitt, 1995). Children with problem-solving deficits are considered to be at greater risk for delinquency (Leadbetter, Hellner, Allen, & Aber, 1989) and significant neuropsychological deficits for adolescents in conflict with the law have been identified (Caspi & Moffitt, 1995; Das & Abbott, 1995; Enns, 1998; Hurt & Naglieri, 1992).

2.3.3.3 Neighborhood and Peer Factors Associated with Conduct Disorder and Delinquency

Neighborhood and peer factors associated with early-onset conduct problems and delinquency have also been identified. Leventhal and Brooks-Gunn (2000) reported that socio-economic status and residential stability are linked to achievement, behaviour problems, delinquency and, to a lesser extent, teenage sexuality, and childbearing. High socio-economic status was strongly associated with high achievement for both children and adolescents. Low socio-economic status and residential instability were significantly associated with childhood externalizing behaviours that are in turn associated with adolescent criminal and delinquent behaviours. Earlier studies demonstrated that neighborhood characteristics might influence parenting practices through effects on control and affective dimensions of parenting (Smith & Stern, 1997). In addition, family characteristics, such as lack of cohesion, may have more profound and deleterious effects in disadvantaged neighborhoods than in more affluent neighborhoods. The effect of neighborhood factors is considered to be profound and may override the potentially ameliorative effects of effective parenting and family cohesion in individual cases (Smith & Stern, 1997).

Difficulties with peer relationships in childhood have been linked to negative outcomes in adolescence and adulthood, including association with deviant peers (Dishion, 1990). Simons, Wu, Conger, and Lorenz (1994) examined quality of parenting and peer affiliations for individuals with early- and late-onset conduct problems. They reported that quality of parenting predicted oppositional and defiant behaviours for early-onset individuals and these behaviours subsequently predicted affiliation with negative peers and delinquency in adolescence. For late-onset individuals, quality of parenting predicted affiliation with deviant peers regardless of oppositional or defiant tendencies. They also noted that criminal justice involvement was most extensive for early-onset individuals with deviant peer attachments and oppositional and defiant tendencies. There is also evidence that commitment to deviant peers is related to family structure. Steinberg (1987) reported that adolescents from single-parent homes were more likely to succumb to peer pressure to commit deviant acts than adolescents from two-parent households, or those where both biological parents were present. Coughlin and Vuchinich (1996) reported that the protective effects of good peer relationships did not vary according to family structure but that deviant peers exerted a more negative and profound effect on early-onset children from both single-parent families and stepfamilies.

2.3.3.4 Risk Factors and Gender

The preponderance of research into the development of conduct problems and delinquency has involved male subjects (Coughlin & Vuchinich, 1996; Giordano & Cernkovich, 1997; Webster-Stratton, 1996), and the various factors associated with male conduct problems and delinquency may not have equal relevance for female conduct problems and delinquency. Silverthorn and Frick (1999) noted that adolescent girls generally become involved in antisocial behaviours only in adolescence, even though they exhibit an almost equal prevalence of conduct problems prior to the age of 5 years. They suggested, however, that many of the pathogenic factors and processes reported for males are also relevant for females. They described a delayed-onset pathway for females in which early behaviour problems are suppressed through socialization and other forces but emerge again in adolescence. They contrasted the delayed-onset pathway for girls to the childhood- and adolescent-onset types identified in research into male delinquency.

2.3.3.5 A Psychology of Criminal Conduct

Andrews (1995) and Andrews and Bonta (1998) referred to many of the risk factors noted above when they stated that there was sufficient evidence, based on extant research, to develop a psychology of criminal conduct. They also suggested that our understanding of the psychological dimensions of crime was adequate to predict criminal behaviour and individual differences in criminal activity, and to effectively modify behaviour through the design and implementation of psychologically informed treatment programs.

Andrews and Bonta (1998) delineated a major and minor set of risk/need factors. The major set included the presence of antisocial and procriminal attitudes, values, beliefs, and cognitive states; affiliation with procriminal associates and isolation from prosocial peers or others; temperamental and personality factors including psychopathy, weak socialization, impulsivity, risk-taking, egocentrism, weak problem-solving skills, and poor self-regulation; an early history of antisocial behaviour evident in various settings and through a variety of acts; family factors including criminality and psychological problems in the family of origin, low levels of affection, caring, and cohesion, poor parental supervision, neglect, and abuse; and low levels of personal educational, financial, or vocational achievement, as well as a history of unstable employment. Further, they identified the first four factors (procriminal attitudes, criminal affiliations, personality, and behaviour or criminal history) as the best predictors of recidivism. The minor set of risk need/factors included lower class origins as evident in neighbourhood conditions or parent achievement; personal distress including low self-esteem, anxiety, or depression; and a variety of biological or neuropsychological factors. Andrews and Bonta reported that the minor set of factors were the poorest predictors of need or risk. Significantly, Andrews and Bonta noted that the strongest predictors are dynamic, or changeable, risk factors and can be targeted in effective treatment.

2.4 Treatment of Conduct Disorder and Delinquency

2.4.1 Introduction

More children and adolescents are referred for treatment as a result of conduct problems than for any other reason (Webster-Stratton & Dahl, 1995). Individuals who have no formal legal status may access treatment in community or clinic settings, while those who have formal legal standing may receive services in institutional or custodial settings, or in the community as a result of a probation order.

Programs that are considered to be effective for the treatment of the conduct problems associated with CD and delinquency will be reviewed in the following sections. Programs that are generally delivered in community and clinic settings, and that may target younger individuals, or children and adolescents with no formal legal status, will be considered in the first section. Programs that are considered to be effective, or thought to hold promise, for adolescents with formal legal standing will be considered in the second section. These services are often provided in institutional or custodial settings, or in the community as a condition of probation. Services for adolescents with formal legal standing have been evaluated within the larger context of prison reform and offender rehabilitation.

2.4.2 Treatment Programs for Conduct Disorder

Programs designed to reduce or eliminate the conduct problems in children and non-delinquent adolescents typically target problem-solving skills, parenting skills, and family-level factors thought to be associated with conduct problems and CD. These programs are often offered in community and clinic settings. A number of the most promising approaches are described below, and evidence regarding their effectiveness is also considered.

2.4.2.1 Cognitive Problem-solving Skills Training

Cognitive problem-solving skills training is based on the premise that individuals who engage in antisocial and criminal behaviours often exhibit cognitive distortions and deficiencies in problem-solving (Crick & Dodge, 1994; Dodge, 1993). Children with conduct problems and CD are more likely than their peers to view the world around them in a hostile and suspicious manner, and to ascribe hostile intentions to the actions of others. They are often hyper-vigilant to hostile cues and are more likely to regard ambiguous situations as threatening or hostile. Finally, because they often possess a limited social repertoire, children with severe conduct problems and CD are more likely than their peers to respond in an aggressive manner, and less likely to monitor and moderate their behaviours over the course of time. In many cases their repertoire has been fashioned in hostile environments where they have been the object of aggression or scorn from caregivers (Dodge, 1993).

Skills training in this area typically addresses the ways in which individuals approach problems and how they choose and evaluate possible solutions. Treatment often involves modeling, practice, role-playing, and structured tasks and assignments, and therapists utilize an active and didactic approach (Kazdin, 1997). Kazdin (2000) reported that outcome studies with clinical samples have shown that cognitively-based treatments can reduce the incidence of aggression and antisocial behaviours amongst conduct-disordered children and adolescents. These gains have been maintained in 1-year follow-ups and are evident in home, school, and community settings. Elsewhere, Kazdin (1996) noted that cognitively-based programs can be enhanced when combined with parent-management training.

2.4.2.2 Parent-management Training

Parent-management training is based on the premise that behaviour problems are inadvertently maintained through maladaptive parent-child interactions in the home. Patterson et al. (1989) described how antisocial behaviours emerge and are maintained when parents succumb to coercive and aggressive behaviours from their children. In parent-management training the therapist teaches the parents to identify and consequence negative behaviours appropriately, and to reinforce and maintain appropriate behaviours. Outcome studies have reported significant improvements for children with CD when parent-management training is provided (Brestan & Eysberg, 1998; Kazdin, 1997; Patterson et al., 1993), with maintenance of gains over 10-year follow-up (Long, Forehand, Wierson, & Morgan, 1994), although multi-problem families tend to report fewer gains and poorer long-term maintenance (Dumas & Wahler, 1983; Webster-Stratton, 1985). Estrada and Pinsof (1995) concluded that parent-management training appears to be an effective treatment in families where a child has been diagnosed with CD. Kazdin (2000) noted that much of the evidence reported for parent-management training has resulted from studies of its effect with children, but reported that parent-management training has also reduced offence rates and substance abuse amongst delinquent adolescents. Finally, parent-management training may also generalize to other problems with the referred child, and other siblings in the family may benefit as a result of the increased effectiveness of parental responses.

2.4.2.3 Functional Family Therapy

Functional family therapy (Alexander & Parsons, 1973) assumes that all behaviours serve some purpose or function for the individual and the family, and incorporates systems, behavioural, and cognitive approaches in the treatment of conduct problems. Family members are taught to view the problem behaviour within its functional context and to remove the need for the behaviour by establishing more appropriate ways of interacting. Behavioural techniques are used to increase positive interactions and reciprocity while cognitive strategies are utilized to examine attributions, attitudes, and expectations in the family.

Gordon, Graves, and Arbuthnot (1995) reported that functional family therapy is effective in the treatment of juvenile delinquency. Lebow and Gurman (1995) also concluded that there is considerable evidence supporting the use of functional family therapy with this population, and Sandberg et al. (1997) reported that the efficacy of this approach for the treatment of behaviour problems in children and adolescents has been established. Swenson et al. (2001) reported that functional family therapy appears to hold promise for the treatment of mild antisocial behaviours in adolescents, and misdemeanor and status offences, but not felony offences.

2.4.2.4 Structural Family Therapy

Structural family therapy has been identified as an effective intervention for families with a delinquent adolescent (Chamberlain & Rosicky, 1995; Sandberg et al., 1997; Swenson et al., 2001). Minuchin, Montalvo, Guerney, Jr., Rosman, and Schumer (1967) developed structural family therapy while working at the Wiltwyck School for Boys in New York City in the early 1960s. The school served families in the inner city and many of the boys came from low-income, lone-parent families, and reported a history of involvement in crime, and with gangs. Minuchin et al. argued that structural family therapy addressed the immediate needs of the families, and the structural characteristics associated with delinquent and criminal activity.

Structural family therapy emphasizes parental, marital, and sibling subsystems within the family (Minuchin & Fishman, 1981). These subsystems are generally constituted along generational lines and each subsystem has specific tasks associated with the healthy development of the family and family members. Membership in the different subsystems, and interactions among individuals in the different subsystems, is regulated by boundaries that surround each subsystem. Structural therapists conceptualise boundaries as existing along a continuum ranging from rigid at one end, to diffuse at the other. Rigid boundaries contribute to disengaged relationships between family members while diffuse boundaries often lead to enmeshed and undifferentiated relationships. Healthy relationships are associated with clear boundaries that exist at the mid-point of the continuum. Subsystem membership and the nature of the boundaries determine the structure of the family. Structural therapists diagnose family structure and utilize a variety of techniques including enactment, boundary making, unbalancing, and challenging assumptions in order to modify family structure.

Gurman and Kniskern (1981) reported significant improvement in 7 of 12 families that received structural family therapy for problems including delinquent and aggressive adolescents. Tolan, Cromwell, and Brasswell (1986) concluded that structural family therapy was the most effective of a number of family therapies they examined for delinquency, but noted that more "specific and robust evidence" was required. Chamberlain and Rosicky (1995) noted favorable outcomes for structural family therapy in the treatment of CD. They sounded a cautious note, however, when they stated that structural family therapy might be most effective for children under the age of 12.5 years. They also concluded that studies regarding the efficacy of family therapies in general have often been flawed and have yielded inconclusive evidence. Sandberg et al. (1997) evaluated studies that had examined the effectiveness of structural family therapy for CD in the previous decade and concluded that a number of quality studies supported the use of structural family therapy for this population. They referred in particular to the work of Szapocznik et al. (1989) who demonstrated that structural family therapy was more effective than services-as-usual in engaging behaviour-disordered Hispanic youth, and as effective as psychodynamic child therapy, and a recreational control group for conduct- and behaviour-disordered children. Swenson et al. (2001) concluded that family interventions were more effective than other interventions with adolescents in conflict with the law, and that structural family therapy was one of the most effective approaches, along with functional family therapy, and multisystemic therapy.

2.4.2.5 Solution-focused and Narrative Therapy

Some evidence regarding the effectiveness of solution-focused therapy and narrative therapy has begun to emerge, although the effectiveness of these approaches with conduct-disordered adolescents has only been considered in a superficial manner (Gingerich & Eisengart, 2000). Solution-focused therapy (Berg, 1994) emphasizes personal competence and efficacy, and past success. It assumes that clients are motivated to change their behaviours but that they are constrained from doing so because they are focused on the problem. Solution-focused therapists encourage clients to focus on past success and to identify how they will behave once the problem is resolved. They do not believe that insight into a problem is necessary for change and they believe that most clients already possess the skills necessary for success.

Zimmerman et al. (1996) evaluated the effects of a solution-focused parenting group for parents experiencing adolescent conflict. They reported that post-test scores on the Parenting Skills Inventory improved significantly for parents receiving solution-focused therapy, and that significant differences were also reported over time on subscales measuring rapport, communication, and limit-setting. However, Gingerich and Eisengart (2000), in an examination of recent outcome studies, noted that there was also evidence of improvement in a wait-list group, so it is not certain that the improvement attributed to the intervention by Zimmerman et al. resulted entirely from the intervention. Corcoran and Stephenson (2000) reported that solution-focused family therapy was effective in reducing the incidence of behaviour problems including conduct problems, lying, and hyperactivity, for children and adolescents ranging from 5 to 17 years of age. However, they noted that the validity of their findings was constrained by a dropout rate in excess of 50%.

Narrative therapy (White, 1995) emphasizes the influence of meaning and context. Narrative therapists argue that many individuals are constrained by oppressive narratives that determine how they will behave, how they view themselves, and how others view them. Narrative therapists believe that other family members, and society, often construct oppressive narratives and they encourage individuals to craft personal narratives that are more congruent with the lives they wish to live. Sandberg et al. (1997) noted that little empirical research has been conducted on the effectiveness of narrative therapy with conduct-disordered adolescents and there is only limited evidence that it may be effective.

2.4.3 Treatment Programs for Adolescents with Formal Legal Status

In the past 15 years a number of literature reviews and meta-analyses have considered whether treatment programs designed to rehabilitate adolescent and other offenders are effective. These reviews have identified effective treatments and the results of these investigations stand in contrast to the earlier findings of Martinson (1974) and others who reported that the treatment of delinquents and offenders was generally not effective. Recent meta-analyses have identified effective principles of intervention, the types of treatment that are most suitable, and the types of offenders that appear to benefit most from treatment. This literature will be examined below.

2.4.3.1 Martinson's Conclusion Regarding the Treatment of Offenders

Martinson (1974) examined over 200 studies found in English language journals from 1945 to the late 1960s, to evaluate whether efforts to rehabilitate juvenile and adult offenders had been effective. He included only studies that evaluated a specified treatment method, employed independent measures to evaluate outcomes, and compared individuals in a treatment condition with those in a control group or some other type of comparison group. Martinson examined institutional and community-based programs that typically included education and skill development, and programs that used either group or individual therapy. He also considered the effects of sentencing practices and intensive supervision of offenders. He used a vote counting method to tally reports of success, failure, or no change, in the various approaches he examined.

Martinson (1974) concluded that there was little support for the effectiveness of rehabilitation programs in general, or for any one program in particular. He also suggested that deterrence through incarceration might be more effective in reducing crime than rehabilitation, due to its expected effect on "incipient" offenders. He qualified his conclusions somewhat by noting that the programs that he had examined were often poorly designed and poorly evaluated, despite his efforts to select only those that met a certain standard, and indicated that it was possible that some programs were having some effect, or that some programs might be more effective with certain types of offenders than others, although the research could not support such conclusions.

Shortly after Martinson published his results Palmer (1975) reported that a careful reading of Martinson's findings indicated that specific types of treatment were shown to be effective for specific types of offenders in specific situations. For instance, according to Palmer, Martinson identified "treatment amenable" and "middle-risk offenders" who responded to treatment; he identified certain types of treatment, including individual therapy and casework, that showed evidence of success; and he identified therapist and offender characteristics that appeared to contribute to more favorable outcomes in specific instances. Palmer noted that Martinson's conclusion contradicted the instances of success that he had identified. He explained this apparent contradiction by noting that Martinson appeared to be most interested in identifying types of treatment that worked, without qualification, for all offenders in all settings, and could thus be accepted as an effective form of treatment in all situations; rather than examining which programs worked best for which offenders under which circumstances. Palmer concluded by citing existing research on offender and therapist characteristics, as well as possible interactions between offender characteristics and treatment settings, which could be used to match offenders and treatment programs.

Recently, Cullen and Gendreau (2000) noted that a number of researchers had reached similar conclusions prior to the publication of Martinson's findings in 1974, and various researchers have arrived at similar conclusions since his publication. Although they regarded Martinson's work as a responsible review of the literature at the time it appeared, Cullen and Gendreau noted that Martinson included studies that addressed a variety of different outcomes, but as few as 73 of the 231 studies cited actually measured recidivism following treatment. Further, of the 73 studies that Cullen and Gendreau identified, treatment was divided into five types including casework, skill development, individual psychotherapy, group therapy, and milieu therapy. Consequently, the number of studies detailing each treatment method was small, ranging from 7 to 20, and the degree of variation within each type of treatment further reduced the strength of findings reported by Martinson. Finally, Martinson reported that he did not include an analysis of the effects of behaviour modification programs or variations of behaviour modification that had emerged. Cullen and Gendreau noted that this represented a significant omission given subsequent evidence that programs that target criminal behaviours, through cognitive-behavioural and other means, are among the most effective in this field.

Martinson's findings were also challenged by narrative reviews of reports published in the 1970s and 1980s, notably by Gendreau and Ross (1979, 1987). Gendreau and Ross (1979) began their first review by challenging the assumption, inherent in previous, negative reviews of the literature, that offenders were possibly incapable of rehabilitation. They noted that most behavioural scientists believed that criminal behaviour was learned, and there was no evidence to suggest that criminals or delinquents were incapable of learning alternative responses or behaviours. Gendreau and Ross reviewed 95 studies that had been published since 1973 and that had incorporated at least a quasi-experimental design, contained a statistical analysis of data, and provided information on at least 6 months of follow-up. They found evidence of success for treatments including family and community intervention, contingency management, counselling, and diversion that included treatment services to the individual and family. Treatments that utilized more than one approach, and that recognized individual differences as well as interactions between offenders and treatment settings, were most likely to report successful outcomes. In addition, multi-dimensional measures of outcome were important for determining the full effects of treatment. Gendreau and Ross noted that Martinson had based his conclusions on studies that were published prior to 1967, and many of the programs he reviewed were characterized by poorly trained staff, lack of specificity, and poor implementation.

In their 1987 review Gendreau and Ross reviewed published reports from 1981 to 1987 and produced further evidence of the effectiveness of specific types of treatment. They reported strong evidence for the success of early intervention and family intervention, cognitive problem-solving skills training, and particular types of education programs. They reported that diversion appeared to be successful only when combined with other forms of proven treatment, including expanded services as well as individual counselling and problem-solving training. Probation also showed moderate results when combined with other services. Further evidence for the effectiveness of biomedical interventions had not emerged since their 1979 review. Deterrence programs and restitution showed some promise when individual differences, including offence history, were considered. Gendreau and Ross also reported that an assessment of risk, along with an evaluation of need and responsivity, was likely to bolster the positive effects of treatment. Gendreau and Ross noted that, by 1979, Martinson had acknowledged that certain types of treatment, including individual psychotherapy, group counselling, and intensive supervision were capable of producing "startling results" (Martinson quoted in Gendreau & Ross, 1987).

2.4.3.2 Meta-analyses of Offender Treatment

Whitehead and Lab (1989) produced contrary findings, to those reported by Gendreau and Ross (1979, 1987) when they conducted a meta-analysis of 50 studies into juvenile rehabilitation that had been published from 1975 to 1984. Rehabilitation was broadly defined as efforts to reduce recidivism, and a variety of programs including probation and institutional or residential programs, programs designed to divert offenders from custody or probation, and novelty programs such as Scared Straight, were examined. Whitehead and Lab reported that diversion programs that operated as an extension of the formal justice system appeared most promising, while many other programs actually appeared to exacerbate criminal behaviours. Similarly, there was no support for behavioural interventions, when programs were evaluated according to the type of intervention provided, rather than by the venue in which they were delivered. There was no indication that gender or offence history affected response to treatment. Further, Whitehead and Lab concluded that recent programs actually appeared to be less effective than those conducted in the 1970s. Whitehead and Lab referred to the 1974 conclusions of Martinson and concurred that correctional treatment appeared to have little effect on recidivism, even though such treatments may have some benefit on outcomes other than recidivism.

Gendreau and Andrews (1990) examined existing meta-analyses of correctional treatment programs and reported that some programs appeared to be more effective than others. The most successful programs emphasized cognitive-behavioural methods as well as contingency management and family therapy. Based upon their review of the literature, Gendreau and Andrews recommended that only high-risk offenders should be selected for intensive interventions and an emphasis should be placed on cognitive-behavioural interventions, skill development, and the pursuit of pro-social and non-criminal pursuits. They also recommended that institutional and community-based programs should be linked, and program evaluators and planners should be involved in the operational phases of treatment whenever possible. Gendreau and Andrews concluded that correctional treatment could be "potent and cost effective" (p. 182) when compared to control and deterrence strategies.

Andrews et al. (1990) reviewed 45 of the 50 studies included in the analysis by Whitehead and Lab (1989) as well as an additional 35 studies. The additional studies examined the effects of rehabilitation on adult offenders. They concluded that sanctions without treatment were ineffective in reducing recidivism but that cognitive-behavioural treatment programs were effective for reducing recidivism for adolescent and adult offenders. Further, community-based treatment was shown to be more effective than institution-based programs. They also noted that treatment effects could be bolstered if the principles of risk, need, and responsivity were considered. According to the risk principle, higher levels of service should be reserved for high-risk offenders. The need principle indicates that interventions should be targeted at factors associated with delinquency. These are also known as criminogenic factors or needs and may include antisocial attitudes, substance abuse, family conflict, and skill deficits that are thought to have a direct and immediate influence on criminal behaviour. Criminogenic needs are contrasted to other needs such as low self-esteem or other personal or emotional problems that may have only a dubious or indirect relationship to criminal behaviour. The responsivity principle suggests that interventions should be effective in addressing the criminogenic needs that have been identified and should be delivered in a manner that is consistent with the individual's learning style.

Dowden and Andrews (1999a) conducted a meta-analysis to determine whether the principles of risk, need, and responsivity were applicable to the effective treatment of young offenders. They examined 134 studies consisting primarily of male participants and reported a significantly higher mean effect size for programs targeting high-risk offenders. In addition, programs that targeted criminogenic needs such as academic deficits, antisocial feelings and anger, self-control, and family supervision and affection were significantly more effective than programs that targeted non-criminogenic needs such as self-esteem and emotional problems. In many instances, programs that targeted non-criminogenic needs actually increased recidivism in the target population. Dowden and Andrews also introduced a fourth principle labeled human service and reported that treatments that addressed human service needs were significantly more effective than those based solely on criminal sanctions.

Dowden and Andrews (1999b) reported similar results in a meta-analysis of treatment programs for female offenders. Human service interventions were significantly more effective than the use of criminal sanctions alone, as were those that targeted high-risk offenders, and cognitive-behavioural and social learning strategies to address criminogenic needs, including family process variables. As with the analysis of young offenders (Dowden & Andrews, 1999a), interventions that targeted non-criminogenic needs appeared to increase the likelihood of reoffence.

In a more recent meta-analysis Dowden and Andrews (2000) examined 35 studies to determine whether services based upon the principles of risk, need, and responsivity were effective in reducing the rate of violent reoffence among adolescent and adult offenders. They reported only equivocal support in this instance for the notion that treatment programs are most effective when they target high-risk offenders. However, programs that targeted criminogenic needs such as antisocial attitudes, chemical dependencies, and poor parental skills, were more effective than programs that targeted non-criminogenic needs such as low self-esteem. Further, programs that targeted multiple criminogenic needs concurrently showed additional benefit. As well, programs that were responsive to the learning needs and styles of offenders, through the use of cognitive-behavioural and social learning strategies were more effective than those that did not use these strategies. Dowden and Andrews also rated each of the treatment programs they reviewed according to the manner in which they incorporated the principles of risk, need, and responsivity, as well as human service needs. They concluded that maximum reductions in reoffending were achieved when all four principles were incorporated in treatment.

Lipsey and Wilson (1998) reviewed 200 experimental or quasi-experimental studies of treatment in community and custodial settings to determine whether these programs were able to reduce reoffence among serious delinquents. Programs that were most likely to reduce recidivism among serious delinquents in community settings included those that targeted interpersonal skills or provided individual and family counselling, behavioural programs, restitution programs, and programs that provided multiple services. Among incarcerated offenders, programs that targeted interpersonal skills, and behavioural programs, were among the most effective in reducing the rate of reoffence. In addition, programs that placed serious offenders in special homes, similar to foster homes managed by specially trained couples, were as effective as those that emphasized interpersonal skills training.

Elsewhere Lipsey (1992, 1995) noted that meta-analytic studies of treatment for juvenile delinquents revealed positive and statistically significant effect sizes with considerable variability around the mean. Treatments that were structured, and that focused on the correction or modification of specific behaviours, were consistently the most effective, with reductions in criminal behaviours of 20% or more when compared to delinquents in some other, or control, conditions. Improvement in psychological, interpersonal, academic and vocational factors was also reported, as a consequence of behavioural and skill-oriented treatments.

Lipsey and Wilson (1998) also examined response to treatment with reference to the characteristics of the offenders in the community, and custodial samples, as well as the amount of treatment, the type of treatment, and general program characteristics. They reported that, for delinquents in the community, positive treatment effects were most strongly associated with offender characteristics, particularly offence history. Treatment type and treatment amount were less strongly associated with outcomes for this group. Among incarcerated offenders, program characteristics, including the age and sponsorship of the program, were most strongly associated with effect size, while the type and amount of treatment were less strongly associated with response. Offender characteristics were not significantly associated with treatment outcome among incarcerated offenders.

More recently, Lipsey (1999) reiterated that the meta-analyses of the past decade have shown that treatment for adolescent offenders is effective. However, he noted that many of the programs that have been evaluated were set up under optimal conditions, often for research purposes, and suggested that the favorable results that have been reported may reflect the efficacy, and the disproportionate influence, of those programs. In response to this concern Lipsey evaluated the effects of practical programs, delivered under actual and ongoing clinical conditions.

Lipsey (1999) examined practical programs that were delivered between 1950 and 1995, and that targeted individuals from 12 to 21 years of age. In order to be included in the meta-analysis, studies had to include treatment and control groups, either randomly assigned or described in terms of pre-treatment group differences, and report quantitative results with at least one outcome measure for delinquency. Lipsey identified 196 practical programs for inclusion in the meta-analysis. He reported that the mean effect size of all 196 programs was .07. Using 50% as the expected rate of reoffence for adolescents who do not receive treatment, Lipsey reported that a mean effect of .07 equates to a reduction of approximately 6%, or a 47% recidivism rate for treated offenders with a presumed 50% recidivism rate for untreated offenders. This compared to a mean effect size of about .13 for demonstration programs established specifically for research and evaluation.

Lipsey (1999) noted, however, that there was considerable heterogeneity among the 196 effect sizes reported in his analysis. He indicated that some of the variation could be explained in terms of methodological and other study-related factors, but substantial variation remained even after this was taken into account. An analysis of method-adjusted effect sizes for practical programs revealed that intensive probation supervision programs, intensive counselling, restitution programs, targeted school-sponsored programs, and community-based skills and restitutions programs, achieved reductions of 10 to 25%, or 5 to 12 points around a baseline recidivism rate of 50%. In addition, programs appeared to be more effective if clients were mandated; if the service was delivered by juvenile justice personnel but outside of justice or law enforcement facilities; if more than five hours of service were provided per week on average; and if the juveniles were predominantly older and more serious offenders with fewer property and status offences. Based on his analysis of effective programs, Lipsey was also able to determine that effectiveness increased as the number of program principles identified above also increased. Lipsey concluded his analysis by suggesting that practical programs could include many of the features common to demonstration programs, including the use of a treatment protocol that stipulates how treatment is to be delivered, training to ensure that staff are able to follow the protocol, and monitoring to ensure that the treatment is being delivered, in the field and on an ongoing basis, as intended.

Gendreau and his colleagues (Cullen & Gendreau, 2000; Gendreau, 1996; Gendreau & Coggin, 1996) have reviewed the literature of the past decade and identified additional principles for effective interventions. Gendreau (1996) reported that the most significant reductions in recidivism have been accomplished by programs that emphasized social learning, and cognitive-behavioural approaches, focused on the criminogenic needs of high-risk offenders and considered the participant's learning style, emphasized the acquisition of pro-social skills, and stressed positive reinforcers over punishment. In addition, therapists in effective programs were sensitive and supportive, responded appropriately to supervision, and disrupted the offender's delinquency network by substituting and fostering pro-social activities and affiliations. Gendreau and Coggin (1996) emphasized that the most effective programs were supervised by program designers that possessed professional credibility, provided appropriate training and a strong curriculum, and conducted appropriate program evaluations.

Cullen and Gendreau (2000) noted that the correlates of effective intervention identified over the past decade have generally supported the principles of risk, need, and responsivity identified by Andrews and his colleagues (e.g., Andrews, 1995; Andrews et al., 1990; Dowden & Andrews, 1999a, 1999b, 2000). Meta-analytic reviews have indicated that programs that target higher risk offenders, and address criminogenic needs, are most likely to report success. These findings address the principles of risk and need identified by Andrews et al. in their analysis of criminal conduct and effective intervention. Recent meta-analyses have also shown that programs that incorporate behavioural, cognitive-behavioural, and social learning strategies are most likely to report success. These programs are often most sensitive to the learning needs and styles of offenders and support the principle of responsivity identified by Andrews et al.

Cullen and Gendreau (2000) also noted that a number of treatments have been developed that embrace the principles identified by Andrews et al. (e.g., Andrews, 1995; Andrews et al., 1990; Dowden & Andrews, 1999a, 1999b, 2000). The following section considers multisystemic therapy for young offenders (Henggeler et al., 1998; Leschied & Cunningham, 1999), identified by Cullen and Gendreau as an exemplary program. The relapse prevention program incorporated in this research (Howell & Enns, 1995) is also described.

2.4.3.3 Multisystemic Therapy

Multisystemic therapy (Henggeler et al., 1998) represents one of the most recent and comprehensive approaches to the treatment of conduct-disordered and delinquent adolescents. In addition to considering the role of individual and family-level factors in the emergence and maintenance of behaviour problems, multisystemic therapy considers the contribution of other systems including peer groups, schools, neighborhoods, and other professionals. Therapists may utilize an array of interventions including problem-solving skills training, family therapy, parent-management training, peer interventions, case management, and consultation. Interventions derive from cognitive-behavioural principles and focus on the interactions between the various systems surrounding the adolescent.

Henggeler et al. (1998) reported that multisystemic therapy is effective in reducing criminal behaviours and substance abuse among chronic and violent juvenile delinquents, and treatment gains have been maintained over multi-year follow-ups. They also noted that the approach is successful in treating family-level variables related to delinquency and the effects are not moderated by demographic characteristics including age, social class, gender, or arrest and incarceration histories. Swenson et al. (2001) reported that a number of randomized trials have shown that multisystemic therapy has helped improve family relations over the short-term, and reduced recidivism over the long-term. They noted that it has also been shown to be effective in the treatment of other problems including substance abuse. Multisystemic therapy has recently been piloted in a number of countries, including a 4-year pilot that began in Canada in 1997 (Leschied & Cunningham, 1999). Kazdin (2000) cited the findings reported by Swenson et al. and noted that replication studies conducted by researchers not involved in the original development of the multisystemic model are required in order to further establish its effectiveness.

2.4.3.4 Relapse Prevention Training

Marlatt and Gordon (1980, 1985) pioneered relapse prevention training as a means of maintaining treatment gains following substance abuse treatment. It has since been used in the treatment of a wide variety of problems including overeating, depression (Wilson, 1992), and domestic violence (Jennings, 1990), as well as with adult sexual offenders (Laws, 1989) and adolescent sex offenders (Perry & Orchard, 1992; Ryan, Lane, Davis, & Isaac, 1987).

Relapse prevention training fosters the long-term maintenance of adaptive behaviours through self-management and enhanced self-efficacy. In substance abuse treatment, for example, individuals are encouraged to identify factors or situations that place them at risk to resume the use of substances. Individuals are then encouraged to learn alternative coping strategies in order to deal with those situations, and reduce the risk of relapse. These strategies may involve the identification of faulty thought patterns, or the identification and utilization of alternative social supports. Previous research has suggested that adolescent offences often occur in the presence of, or subsequent to, behavioural, cognitive, emotional, and situational factors that can be identified and that increase the risk of offending (Agnew, 1990). Consequently, the relapse prevention approach has also been adapted for use with adolescent, non-sexual offenders (Howell & Enns, 1995).

Adolescent offenders receiving relapse prevention training are required to construct a behaviour chain listing the behaviours that preceded their offence (Howell & Enns, 1995). These behaviours must be listed in proper sequence and each behaviour identified must be one that directly increased the risk of offending. After the behaviour chain has been constructed participants are required to construct a second chain listing the thoughts and feelings associated with each of the behaviours they identified. Participants construct chains for a representative variety of the offences that they have committed and subsequently identify the behaviours, thoughts, and feelings, common to the various chains that increase their risk of reoffence. These behaviours, thoughts, and feelings are identified as high risk factors. Once this has been completed, participants are required to generate alternative coping strategies to deal with each high risk factor in the future. An emphasis is placed upon avoiding those factors that place the participants at risk to reoffend, or escaping from those factors if the participant is initially unable to avoid high-risk situations. Coping strategies may involve alignment with non-delinquent peers, involvement in pro-social activities, interventions to improve attendance and performance at school, or new methods of dealing with family conflict and pressures.

Clinicians have recently begun to use relapse prevention strategies in the treatment of conduct and behaviour problems in children and adolescents. Christophersen and Finney (1999) described relapse prevention in the treatment of children diagnosed with Oppositional Defiant Disorder (ODD). Horne, Glaser, and Calhoun (1999) described a relapse prevention program for children diagnosed with CD. The use of relapse prevention is therefore consistent with clinical efforts currently underway. In addition, relapse prevention programs are consistent with programs considered to be most effective for juvenile delinquents and with the principles of need, risk, and responsibility enunciated by Andrews and others because they typically target dynamic risk factors for each offender, focus specifically on factors most likely to increase the risk of offence or reoffence for each participant, as well as those most proximal to specific offences, and utilize teaching strategies that are responsive to the learning styles and needs of the population.

2.5 Summary of Existing Treatment Approaches

More children and adolescents are referred to mental health professionals as a result of conduct problems associated with CD than for any other reason (Webster-Stratton & Dahl, 1995). Community-based treatments that promote effective problem-solving for children and adolescents, and those that address parenting skills and family-level factors associated with conduct problems, are considered to be most effective for this population (Kazdin, 2000).

Recent reviews of effective correctional programs for adolescents in conflict with the law also demonstrate that programs that address problem-solving and parent management, as well as family-level factors associated with delinquency, are most effective. In addition, the most effective corrections programs focus on high-risk youth and target criminogenic factors; match the participant's learning style; are time-limited, intensive, and community-based; and utilize multi-modal, cognitive-behavioural interventions (e.g., Andrews et al., 1990; Dowden & Andrews, 1999a, 1999b, 2000; Gendreau, 1996).

Multisystemic therapy (Henggeler et al., 1998; Kazdin, 2000; Leschied & Cunningham, 1999) is considered to be a promising treatment for adolescents in conflict with the law because it simultaneously addresses parental-, family-, and child-level factors that are clearly associated with delinquency, as well as the effects of deviant peers and neighbourhood or community factors (Cullen & Gendreau, 2000; Kazdin, 2000; Leschied, 2000). Relapse prevention training (Howell & Enns, 1995; Marlatt & Gordon, 1980, 1985) also appears to hold promise for the treatment of adolescents in conflict with the law, given its recent application with conduct-disordered youth, its longstanding use with adult offenders, and its emphasis on proximal and criminogenic factors most clearly associated with the criminal behaviours of each specific offender.

2.6 Research Questions

An intensive, home-based program combining relapse prevention training and family-level interventions, including structural family therapy and parent-management training, was designed, delivered, and evaluated for this dissertation. This program also utilized solution-focused and narrative techniques to punctuate the strengths and the competence of the family and individuals, and to promote the use of relapse prevention strategies. In addition, the relapse prevention training utilized a cognitive-behavioural approach to target criminogenic factors identified as being significant by the adolescents participating in treatment.

Adolescents who received the intensive, home-based program, and their families, constituted the treatment group. A comparison group of adolescents who received services-as-usual in an existing outpatient clinic was also established. It was expected that adolescents enrolled in the integrated, home-based program would engage in significantly fewer and less serious incidents of targeted behaviours during treatment and at follow-up than adolescents in the comparison group. It was also expected that family members of adolescents enrolled in the intensive, home-based program would report significantly greater improvement in family factors associated with delinquency than family members of adolescents in the comparison group.

The following questions were addressed:

1. Did adolescents who received intensive, home-based services demonstrate better outcomes than adolescents in a comparison group who received services-as-usual in a clinic setting, on measures of recidivism?
2. Did adolescents who received intensive, home-based services demonstrate better outcomes than adolescents in a comparison group who received services-as-usual in a clinic setting, on measures of family and individual functioning?
3. Did parents of adolescents in the intensive, home-based program report better outcomes than parents of adolescents receiving services-as-usual in a clinic setting, on measures of family and individual functioning following treatment?
4. Did selected variables at pre- and post-treatment intervals predict recidivism at 6 months?
5. If treatment effects are evident for the treatment group can these be explained as a function of the integrated home-based intervention?

2.7 Summary

The relationship between delinquency and adolescent development was considered in this chapter. Although some degree of involvement in antisocial behaviours may be normative in adolescence, adolescents who are diagnosed with CD, and those who are arrested or incarcerated, are at greater risk for negative outcomes in adulthood than their peers who are not diagnosed or arrested. The risk for negative outcomes in adulthood increases further if individuals meet the diagnostic criteria for childhood-onset CD. The risk factors associated with childhood CD and serious antisocial and criminal behaviours in adolescence were identified, and promising treatments for this group of adolescents were reviewed. The purpose of the dissertation was explained and the research questions to be examined were presented.

CHAPTER 3

METHOD

3.1 Introduction

This chapter describes the participants included in the study and the procedures used to recruit them, and to obtain written consent. The ethical review process is also discussed. Participants were recruited to the treatment group receiving home-based services or the comparison group receiving services-as-usual at the Centerpoint clinic. Both interventions are described and a detailed description of the home-based intervention is provided. Differences between the home-based and clinic services are also identified. Participants were assessed on a number of instruments at pre- and post-treatment intervals, and on some dimensions at the beginning of treatment only, or the end of treatment only. The instruments that were selected to assess individual and family functioning are identified and their psychometric properties are reviewed. The chapter ends with a description of data analysis procedures.

3.2. Design

A nonequivalent control group design utilizing pre-treatment and post-treatment measures was used to evaluate the effect of the intensive, home-based program (Kazdin, 1998). Adolescents in the treatment group received the intensive, home-based treatment. Adolescents in the comparison group received services-as-usual in the Centerpoint clinic. Although the treatment condition specifically targeted adolescents and their families, families of adolescents in the comparison group were also frequently involved in treatment. Adolescents in the two groups were compared on a number of critical variables at referral in order to evaluate equivalence.

3.3. Participants

The Centerpoint program is a clinic-based program operated by the Alberta Mental Health Board through Alberta Hospital Edmonton in Edmonton, Alberta. It is situated in a downtown location and is readily accessible using public transit. Individuals generally between the ages of 12 and 17 years are referred to the program by probation officers, when a counselling condition has been included as part of their probation order, or if they have been sentenced to a period of open custody under Canada's federal Young Offenders Act. Many of these youth meet the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) diagnostic criteria for Conduct Disorder (CD). All males referred to the Centerpoint program, and residing with a natural, adoptive, or step-parent, or extended family member, were eligible to participate in the study. Females were excluded from participation in the study due to the smaller number of females arrested or sentenced under the Young Offenders Act and the smaller number referred to the program.

A total of 38 adolescents received home-based treatment and diagnostic information was available for 30 adolescents. Twenty-three of the 30 were diagnosed with CD. Three of the individuals diagnosed with CD had a concurrent diagnosis of Attention Deficit Hyperactivity Disorder (ADHD). Seven individuals were diagnosed with Adolescent Antisocial Behavior. Drug and alcohol problems were cited in a number of cases but no diagnoses were made.

Thirty-one adolescents were assigned to the comparison group. Diagnostic information was available for 28 cases. Twenty-one adolescents were diagnosed with CD, four were diagnosed with ADHD, two were diagnosed with Adolescent Antisocial Behavior, and one had a diagnosis of Oppositional Defiant Disorder (ODD). Alcohol Abuse and Cannabis Abuse were also diagnosed in two cases each, for adolescents that were diagnosed with CD. Cannabis Dependence was also diagnosed in one case.

Although information regarding the psychiatric diagnoses of adolescents in conflict with the law is surprisingly sparse (Grisso, 1999), the information gleaned from the files of adolescents in the treatment and comparison groups is consistent with what has been reported elsewhere in the literature. Richards (1996) examined 80 males and 20 females and reported multiple diagnoses, but most often CD and substance abuse, in 86 cases. Neighbors, Kempton, and Forehand (1992) studied 111 juvenile delinquents and found a similarly high incidence of CD and substance abuse. McManus, Alessi, Grapetine, and Brickman (1984) studied 40 male and 31 female delinquents and reported a wide range of psychopathology including substance abuse, alcoholism, and affective disorders.

An unpublished study of 148 adolescents remanded to Alberta Hospital Edmonton between April 01, 1998 and March 31, 1999, for an inpatient psychiatric assessment under Canada's federal Young Offenders Act, showed that 146 individuals (99%) met the criteria for CD (Enns, 1999). Adolescents were diagnosed following a one-week assessment, and at the conclusion of a multi-disciplinary assessment conference involving members of the nursing staff, a psychologist, a social worker, and a psychiatrist. Fifty-two individuals were also diagnosed with Alcohol Abuse and 45 were diagnosed with Polysubstance Dependence. Seventeen individuals were diagnosed with ADHD. Approximately 25% of the individuals referred for assessment were diagnosed with a concurrent adjustment, mood, or psychotic disorder. These findings provide some support for Lambert et al. (2001) who have recently argued that CD resembles a global disability that is most frequently defined by antisocial and externalizing behaviour but which includes other pathologies including anxiety, withdrawal and depression. The diagnoses reported in this study may yield the most accurate profile of the adolescents generally referred to the Centerpoint program. The assessments conducted at Alberta Hospital Edmonton are formal psychiatric assessments conducted before trial or sentencing. Many of the adolescents assessed at the Hospital receive short periods of time in custody, or are placed on probation, and are eventually referred to the Centerpoint program by their probation officers.

3.4 Procedure

3.4.1 Ethical Review

An ethical review of the program, and consent to proceed, was obtained from the University of Alberta. A separate review was conducted by the Alberta Mental Health Board, and the Correctional Services Division of Alberta Justice, through their participation in the review conducted by the Alberta Mental Health Board. Consent to proceed was given following the review by the Alberta Mental Health Board.

3.4.2 Recruitment and Consent

Initially, the therapist assigned to the treatment group contacted all males referred to the Centerpoint program, and their parents or guardians, to explain the study, to obtain consent for participation in the research, and to explain the process for assignment to either the treatment or comparison groups. They were also informed that they might not be included in either group, even if they consented to participate, and may receive treatment as usual at the Centerpoint program with another therapist. A telephone script was provided (see Appendix 2) in order to ensure that all adolescents and parents received the same information upon which to base their consent, and to ensure that they understood the assignment process. The written consent of both the adolescent and the parent was necessary for inclusion in the treatment or comparison groups.

This process was subsequently changed as a result of clinical considerations that emerged shortly after the recruitment process began. In some cases, either the adolescent or parent expressed a clear preference for inclusion in either the treatment group or comparison group. In other cases, probation officers, upon referring an individual for treatment, expressed a preference for one group over the other, based upon their experience with the youth and their family, a youth's previous response to therapy, or practical considerations relating to transportation or a participant's work schedule. These issues were considered and adjustments were made to the recruitment process because it was determined that the preferences that were being expressed, especially those given by the adolescent or parent, would likely affect engagement and motivation in therapy, and every effort had to be made to ensure success in treatment because the research was being conducted in an active clinical setting.

As a result of these concerns, the therapist assigned to the treatment group began to contact adolescents referred to Centerpoint, in the order that the referrals were received, only when she needed to add cases to her caseload. Further, she did not contact all new referrals as before, but only as many as she needed in order to maintain her caseload. Adolescents were asked if they wished to receive services in their homes or at the clinic. Participants who agreed to be included in the treatment group were informed that the data collected over the course of treatment would be used for research purposes, and the written consent of both the adolescent and a parent or guardian was still required. Participants were still given a choice as to whether they wanted to be included in the treatment group, or receive services as Centerpoint instead, even in those cases where a probation officer or other referral source had indicated a preference for either the home-based group or services-as-usual at Centerpoint.

As a result of changes made to the recruitment process, the therapist assigned to the comparison group began to contact new referrals whenever he needed to add cases to his caseload. In some cases the adolescents may have declined a previous invitation to be included in the treatment group, however, in most cases they had not been contacted previously. By this time certain staff in the Centerpoint program had been asked to collect assessment data on a routine basis. As a result, the therapist assigned to the comparison group had begun to administer the assessment battery, used with the treatment group, on a routine basis to all adolescents and families assigned to him. As a result, participants who consented to be included in the comparison group were asked to consent to the use of their data for evaluation purposes. Consent was to be obtained from both the adolescent and parent(s). Participants were informed that they could withhold consent for the use of their data for research purposes and still receive services-as-usual in the Centerpoint program.

All participants were still referred by probation officers or those involved in the supervision of adolescents serving a period of open custody, and all referrals continued to be directed through the central intake process. Recruitment into either the treatment or comparison conditions occurred whenever the therapists were able to add an additional adolescent to their caseloads, and no screening or selection of referrals for either group occurred prior to the therapists' initial contact, unless special considerations had been indicated by the probation officer or other individuals making the referral, or a special request had been made by the adolescent or parent. In those cases, individuals were placed in either the treatment or comparison groups, depending upon the specific request that had been made and the wishes of the adolescent and parent. The initial consent forms were amended in order to reflect the changes in procedure described above and copies of the amended forms (see Appendix 3) were submitted to the Chair, Department of Educational Psychology Research and Ethics Committee, University of Alberta, for information and review. The amended consent forms were approved for use.

3.4.3 Description of the Treatment and Comparison Interventions

3.4.3.1 Comparison Group Intervention

The research utilized a treatment group that received structural family therapy and relapse prevention training in their homes or the community, and a comparison group that received services as usual in the Centerpoint clinic setting. The services provided in the Centerpoint clinic vary, to some extent, according to the therapists employed at that setting. Program staff members are considered to be knowledgeable in the treatment of young offenders and have ensured that the services offered are consistent with the approaches that are considered to be most effective with this population. There is a strong emphasis on cognitive-behavioural interventions and a focus upon reducing the risk of reoffence. At the time the study began, the clinic was attempting to provide individual, group, and family therapy. The provision of group therapy diminished over the course of the research, in favor of individual and family therapies designed to bolster parenting skills and to address anger management and other interpersonal issues on an individual or family basis.

The therapist assigned to the comparison group has routinely attempted to work with adolescents referred to the program, and their families. An examination of case files for adolescents in the comparison group revealed that family sessions were conducted in 94% of the cases, and were more frequent than individual sessions with the referred adolescent only. Interventions attempted to bolster parenting and communication skills, address marital concerns when appropriate, and reduce reactivity between the referred adolescent and parent.

3.4.3.2 Treatment Group Intervention

Adolescents in the treatment group were offered a combination of family-level interventions, including family therapy, and relapse prevention strategies. A workbook was developed for adolescents in the treatment group (see Appendix 4) and a parent manual was also provided to assist parents to understand and encourage the skills being taught to the adolescents. The introduction and rationale for the workbook emphasizes that all participants are at risk to reoffend, by virtue of the fact that they have already been found guilty of at least one previous offence. The risk of reoffence varies according to numerous personal and situational factors and can be reduced through the successful identification and management of high-risk situations. High-risk situations are defined as cognitive, behavioural, or emotional states that increase the possibility of the adolescent committing a crime. Although these situations may vary across individuals, individual offenders tend to reoffend in the similar manner and in response to a similar range of situations that can be identified (Howell, Reddon, & Enns, 1997, 2000). The home-based program emphasized that offenders are personally responsible for their criminal behaviour, but the risk of reoffence can be managed through the identification of high-risk situations and the development and use of alternative, effective coping strategies. A description of the program, as it is typically delivered to adolescents in conflict with the law, follows.

Adolescents begin by listing all previous convictions in order to generate an accurate offence history. Once this is completed they are taught how to construct behaviour chains for their offences. A behaviour chain details numerous observable events leading up to the offence, the offence itself, and the steps immediately following the offence. Only observable events are included at this stage. The events must be listed in proper chronological sequence and only those events that actually increased the likelihood of a criminal act occurring are included. The adolescent is encouraged to consider each step in the behaviour chain as a "warning sign" that increased the possibility of the offence occurring. Each chain consists of about 10 steps. Depending upon the individual, and the type of offence described, the time-period covered by the behaviour chain can vary from a couple of hours to a couple of days.

Once the first behaviour chain is completed the adolescent is taught that non-observable events such as thoughts and feelings, are also likely to play an important role in their decisions to offend, and may also act as warning signs for future criminal acts (Nelson & Jackson, 1989). The relationship between observable behaviours, and thoughts and feelings, is explained and the adolescent is shown an example of a chain of behaviours leading to a criminal offence, with corresponding thoughts and feelings identified at each step (see Appendix 5). Once this is done the adolescent is asked to examine his initial behaviour chain and to attach the feelings and thoughts that correspond with the behaviours he has previously identified. Examples of feelings that are often identified include boredom, depression, anger, hopelessness, excitement, and lack of remorse. Thoughts identified by participants may include self-denigrating, self-defeating, and distorted thoughts.

Participants are asked to consider a number of offences in this matter. If the offender reports a heterogeneous offence history, various types of offences are considered, in order to ensure that all relevant high-risk situations are identified. If the adolescent reports a homogeneous offence history they are asked to select those that may have occurred for various reasons, or under different circumstances, to similarly ensure that all relevant high-risk situations are noted. Once this has been done the adolescent is asked to consider common situations across offences in order to identify common or recurring factors. These factors are included in a list of high-risk situations consisting of high-risk behaviours, thoughts, and feelings for the offender.

Once the high risk situations have been listed, the adolescent is encouraged to identify effective coping strategies to deal with those situations in the future. Two types of strategies are identified (Steenman, Nelson, & Viesti, 1989). Avoidance strategies involve staying away from high risk situations altogether. Escape strategies involve leaving a high-risk situation once it has been encountered. For example, an adolescent can avoid criminal peers by deciding to go directly home after school, or if he has decided to accompany them after school he can escape their influence by walking away or returning home if they begin to discuss criminal activities. Participants are taught that it is easier to avoid a situation than to escape from it, and that it is easier to avoid or escape from the high-risk situations that occur earlier, rather than later, in the chains they have constructed. Negative thoughts and feelings can also be avoided or challenged most easily if they are identified early in the sequence. If not, the adolescent is told that he can escape their influence by enlisting the help of others, seeking out more enjoyable or appropriate activities, or leaving situations that are likely to generate or reinforce misperceptions and harmful emotions.

The adolescent is encouraged to consider times when he has not offended, in order to identify specific coping strategies. The emphasis on past successes ensures that relevant and meaningful coping strategies are identified and may contribute to an expectation or recognition of success. As well, the adolescent is encouraged to identify formal and informal supports that can be used to either avoid or escape high-risk situations in the future. These may include extended family members, prosocial friends, mental health professionals, or community agencies and programs. For example, an adolescent that is most likely to reoffend as a result of conflicts or arguments with his parents may learn skills to deal with these situations in the home, and thus avoid high risk situations; or he may escape from a high risk situation by deciding to spend the night with a relative or prosocial friend, rather than walking the streets, if he is forced, or decides, to leave home after a fight with his parents. It is hoped that the adolescent will generate coping strategies that are specific and relevant, and therefore more likely to succeed, because of the idiosyncratic and personal nature of the high risk situations that are identified.

All participants are taught a five-step plan to promote their use of the coping strategies they identify. First, the adolescent is instructed to engage in self-talk to clearly identify the high-risk nature of the situation at hand. Next, he is instructed to acknowledge and reinforce the importance of dealing with this situation quickly and effectively in order to reduce the risk of reoffence, preferably through avoidance. In the next step the adolescent is instructed to assert his sense of self-control and to reassure himself that the situation can be resolved through the use of an effective coping strategy. The adolescent is then instructed to select an appropriate coping strategy, to implement the coping response, and to evaluate the effect. If the first coping strategy chosen is not effective, the adolescent is taught to select an alternate coping strategy and to evaluate the effect of the subsequent strategy. Finally, the adolescent is instructed to self-reinforce effective coping strategies in order to punctuate the event and to increase the likelihood of effective coping in the future.

Depending upon the adolescent in treatment, the material was delivered as presented in the workbook, or the workbook served as a guide to ensure therapist adherence to the basic concepts of the intervention. During this research, it was determined that some adolescents benefited from a less structured approach that required the therapist to identify and discuss high risk factors over the course of the initial sessions with the adolescent. In those cases the therapist was able to identify the adolescent's high-risk situations, and to discuss the concepts and notions that underlie the high-risk approach, even though this material was not gleaned through a sequenced completion of the assignments contained in the workbook.

The focus on reducing the likelihood of criminal reoffence derives partially from the nature of the referrals for service. A reduction in the likelihood of reoffence is also considered to be an important clinical goal because it is regarded as a positive indicator for adolescents considered to be at high risk for negative outcomes in adulthood. Focussing on offending behaviours also helps the therapist engage with the client and the family. The client is more likely to see the value of treatment, and participate, if therapy is focused on the reduction of criminal behaviour and the successful completion of probation. Parents often feel blamed by professionals when their children are referred for therapy, and many describe negative experiences that impede engagement in therapy (Stern, 1999). Parents may also be more likely to welcome the therapist into the home if the initial focus is on the adolescent's behaviours and the parents believe that the therapist can offer credible and effective strategies to reduce the likelihood of reoffence (Cunningham & Henggeler, 1999; Henggeler et al., 1998; Powell, Batsche, Ferro, Fox, & Dunlap, 1997).

The relapse prevention strategies described above were also taught to the parents through discussion and the use of the companion manual for parents. An immediate goal in this situation was to familiarize the parents with the terminology and concepts of the approach and to educate parents regarding the adolescent's high-risk situations and chosen coping strategies. If family-level or parental factors were associated with a participant's criminal behaviours, the adolescents was asked to discuss his high risk situations and coping strategies with his parents, in order to explain the relationship between those situations and his risk of reoffence. In those cases the parents may have been asked to participate in the coping strategies chosen by the youth. High-risk situations that involved conflict with either parent were discussed with the parents so that the parents could understood the significance of those situations for reoffence, and so that effective coping strategies could be devised to deal with those situations before they escalated, or to allow and encourage the adolescent to avoid or escape high-risk situations. Those situations often required an agreement between all family members about how to handle specific situations in an agreed-upon manner, as discussed in therapy, or a commitment that specific issues would not be discussed or pursued until they could be addressed with the home-based therapist.

In other situations it was necessary to offer parent-management training or marital therapy, if it appeared that parenting practices or marital conflict were a contributing factor to the adolescent's behaviour. Parents were more likely to consent to these particular interventions if the therapist had demonstrated skill regarding the issue of reoffence, and they also agreed that parenting or marital issues should be addressed to reduce the likelihood of reoffence. Parents can also be a valuable resource for devising appropriate coping strategies. They may be aware of extended family members or others who can provide respite when necessary. They will also be aware of those times when the problem did not escalate into criminal action and they may be able to identify how the adolescent and family were able to manage those situations successfully.

3.4.3.3 Summary of Contacts by Both Therapists

Thirty-one adolescents were assigned to the comparison group. Adolescents in the comparison group were seen for an average of 12.5 sessions with each session lasting approximately one hour. Individual therapy only was provided to the adolescent in two cases. Either family or marital therapy only was provided in two other cases, and a combination of individual and family, or marital, sessions were provided in the remainder of cases. Interventions focused on anger management, parent-child conflict, parenting strategies, and family relationships and all sessions were conducted in the clinic.

Thirty-eight adolescents received the intensive, home-based treatment. An average of 23 sessions were provided to adolescents and families in the treatment group. The average length of each session was slightly more than two hours. Every adolescent received individual therapy and family therapy was also provided in all but three cases. The therapist met with the adolescent, and separately with the parents, in the three instances when family therapy was not provided.

The therapist assigned to the treatment group provided therapy in the home, and at least one other venue, such as a group home, alternate family home, school, probation office, or detention center, in all but one case. On average, therapy occurred in slightly more than 3 different venues. Consultations with probation officers occurred in every case and consultations with school officials were common. Interventions were tracked according to type. Structural, solution-focused, narrative, and behavioural family therapy were common, as was parent-management training and psycho-education. Relapse prevention training, using the High Risk workbook developed for the home-based program, was offered in every instance.

3.4.3.4 Treatment Integrity: Staff and Program Factors

In his discussion of research designs in clinical psychology, Kazdin (1998) identified the breakdown of treatment integrity as a significant threat to outcome research. Similarly, Chambless and Ollendick (2001) reported that efforts to maintain treatment integrity are critical when attempting to establish empirical support for psychological interventions. Kazdin recommended the use of manuals to promote integrity and to assist in outcome evaluation. He stated that manuals help the therapist learn the procedures, techniques, topics, and themes to use, and to evaluate whether interventions have been delivered as they were designed. In addition, Kazdin stated that staff should possess the requisite skills and be carefully trained. They should also receive ongoing supervision through regular meetings with other therapists, or a supervisor who is well versed in the treatment being offered.

McGuire (2000) added that programs must be delivered as planned, and processes need to be established to ensure that this occurs. Staff members need to have adequate resources to deliver treatment as planned, and they require proper training, support, and clinical supervision. Appropriate outcomes also need to be identified and measured. He agreed that adherence to treatment principles can be promoted through the use of manuals that help to define the overall objectives of treatment and the goals of constituent sessions. The latter can also help to ensure that treatment is paced appropriately, and moves in the proper direction.

Gendreau and Coggin (1996) stated that the program designer, or director, should possess professional credibility, prepare a strong curriculum, and conduct staff training and evaluation. They also emphasized that frontline staff require appropriate counselling skills and experience, and need to participate in ongoing and relevant professional development. Lösel (1996) noted that poor program integrity can result from weak program structure, insufficient staff training and support, the absence of manuals, staff resistance to programs, poor organizational support, and the absence of a philosophy of both criminality and treatment.

A number of steps were taken to protect the integrity of the treatment intervention in this study, and to evaluate the intervention provided to adolescents in the comparison group. The dissertation writer served as the principal investigator for this research. He has 20 years of clinical experience working with adolescents in health care settings, and has served as a clinician in, or manager of, young offender treatment programs in the health care field for the past 10 years. He possesses a Masters Degree in Social Work, with a specialty in family therapy with adolescents and their families, and has been registered with his professional association since 1991. In addition, he has taught an undergraduate course in family therapy interventions with children and adolescents, as a Social Work sessional instructor, for the past six years. Prior to that he maintained a small private practice specializing in family and individual therapy with adolescents and their families.

As a manager of young offender programs the investigator designed the home-based intervention, and prepared the proposal for the home-based program that was evaluated in this dissertation. He was also responsible for recruiting the therapists involved in the treatment and comparison groups, and was able to select staff based on their related experience, their interest in working with adolescents, and their reputations as competent and skilled clinicians. He provided almost weekly supervision to the therapist assigned to the treatment group and, finally, he collected, scored, entered, and analyzed all data over the course of the project.

The investigator also produced a workbook containing key relapse prevention concepts for the adolescents in the treatment group (Appendix 4). The workbook was divided into sections to assist in pacing the intervention, and it contained homework sheets and examples to help the adolescent learn the material. This workbook was used as a guide by the therapist to ensure that critical concepts were taught and mastered, in the proper sequence, over the course of treatment. The writer also produced a guide for parents to help them understand the intervention, and to establish a context for parenting, family, or other interventions that were considered to be necessary.

The therapist assigned to the treatment group received training in the use of relapse prevention techniques with adolescents prior to beginning her work with the treatment group, as well as almost weekly supervision with the writer, as noted above. Clinical situations were discussed and interventions were evaluated in terms of their adherence to the treatment model described in this dissertation. Adherence to the model was also promoted through professional development activities, and the use of Intervention Tracking Sheets (see Appendix 6) designed for this dissertation. The tracking sheets identified the treatment venue, treatment participants, treatment approach and techniques, and salient clinical issues. Separate sheets were maintained for each of the adolescents registered in the treatment group.

The adolescents assigned to the comparison group received services-as-usual in a well-established program in an existing clinic. The therapist assigned to the comparison group did not receive clinical supervision from the investigator but, as is the practice in the clinic, relied on weekly case conferences attended by other clinic staff, including psychiatrists and registered social workers, for clinical direction and consultation. Further, the therapist assigned to the comparison group did not use, or see, the tracking sheets designed to monitor the clinical integrity of the home-based intervention. His interventions were identified through file reviews as files were closed. This review determined that the comparison group therapist continued to provide cognitive-behavioural and family-focused treatments to adolescents and their families throughout the course of the study.

Face-to-face contact between the two therapists was limited as much as possible. Further, all assessment measures were paper-and-pencil measures and did not require an interview or administration by the therapists, with the exception of the Peabody Picture Vocabulary Test (Dunn & Dunn, 1997). In addition, the therapists were asked not to score or review the clinical measures they administered, and all measures were forwarded directly to the investigator. This was considered to be especially important in the case of the therapist assigned to the comparison group because the selection of measures reflected basic assumptions regarding desired outcomes and points of intervention for the home-based program.

The therapist assigned to the treatment group has worked with children and adolescent, and their families, in Child Welfare and similar settings since 1989. She holds a Bachelor of Arts degree as well as a Bachelor of Social Work degree, and completed a Master of Science degree in marriage and family therapy just prior to commencing her work with the treatment group in 1998. As part of her Masters training she completed a 2-year practicum in structural family therapy with a local Child Welfare agency.

The therapist working with adolescents in the comparison group holds a Masters degree in psychology and has 11 years experience of clinical experience as a psychologist. He was provisionally chartered in 1989 and received full charter status in 1991, prior to moving to Canada in 1996. He received full charter status in Canada in 1998. He has worked with adolescents and their families since joining the Centerpoint staff in 1997 and indicated that he typically uses a cognitive-behavioural approach along with structural, solution-focused, narrative, and systemic interventions with families. He has participated in ongoing professional development activities and recently completed a summer externship in family therapy. In addition to working with adolescents he has experience working with first-break psychotic patients, and their families, as well as adolescents residing in a residential treatment center.

3.4.3.5 Summary of Differences Between the Home-based and Clinic Services

Although both services utilized cognitive-behavioural interventions and involved the adolescent and family members in order to reduce the risk of reoffence, they can be differentiated on a number of dimensions. As noted above, adolescents in the home-based program received approximately 23 sessions and 46 hours of therapy, while adolescents in the comparison group received an average of 12.5 sessions and hours.

In addition, relapse prevention principles were more prominently featured in the in-home program. Adolescents in the in-home program were provided with a relapse prevention workbook and assignment sheets designed to facilitate the teaching of relapse prevention principles. Parents were provided with a companion guide to encourage their understanding of the principles being taught to their adolescent. In addition, interventions with the parents and the family frequently focused on the application of relapse prevention principles on a family level. For example, if an adolescent reported that his risk for reoffence was greater following arguments with a parent, the therapist encouraged discussion of these situations in family therapy, and attempted to involve family members in the identification and use of coping strategies to deal with these situations more successfully in the future. These strategies could include an agreement to contact the therapist, to defer discussion of an issue until the next session with the therapist, or to utilize skills or coping strategies identified in therapy. Although, the therapist assigned to the comparison group was also familiar with relapse prevention theory, he did not use workbooks or assignment sheets, and less emphasis was placed upon the teaching of relapse prevention principles.

The focus on relapse prevention principles in the home-based program also encouraged the involvement of other professionals, and extended family members, in therapy. The in-home therapist had more frequent contact with a wider range of professionals, including probation officers and school officials, than the therapist assigned to the comparison group, and she was more likely to use community venues to meet with the adolescent and other professionals than the clinic therapist. In addition, she was more likely to meet with the adolescent in the presence of another professional, than the therapist assigned to the comparison group. The in-home program also placed greater emphasis on the role of extended family members in treatment, with particular emphasis on their contribution to the coping strategies identified in therapy. The therapist assigned to the comparison group was unlikely to involve extended family members in treatment and generally limited his contact with other professionals to the exchange of information.

3.5 Instruments

Henggeler, Melton and Smith (1992) distinguished between ultimate and instrumental outcomes. Ultimate outcomes refer to changes in the target problem. In this dissertation ultimate outcomes refer to the rate and severity of criminal and antisocial behaviours following treatment. Ultimate outcomes in this dissertation were measured by examining official records of arrest and conviction before and after treatment, as well as self-reported delinquency on the Self-Report Delinquency Scale (Elliott, Ageton, Huizinga, Knowles, & Canter, 1983) and parental reports of conduct problems and aggression using the Revised Behavior Problem Checklist (Quay & Peterson, 1996). Kern and Bales' (1980) mean ranking of criminal severity was used to evaluate the severity of offending following the completion of treatment.

Instrumental outcomes refer to outcomes involving processes or mechanisms associated with a target problem. Instrumental outcomes in this dissertation were identified on the basis of their empirical association with delinquency and included measures of individual and family functioning. The General Scale of the Family Assessment Measure (Skinner, Steinhauer, & Santa-Barbara, 1995) was used to measure changes in family functioning for both the adolescents and parents. Individual functioning for adolescents was assessed using the Youth Coping Index (McCubbin, Thompson, & Elver, 1995). Parent functioning was assessed using the Life Distress Inventory (Thomas, Yoshioka, & Ager, 1993) and the Social Support Index (McCubbin, Patterson, & Glynn, 1982). Only parents in the treatment group were asked to complete the Social Support Index following treatment.

The instruments used are listed in Table 3.1. Instruments used to measure ultimate and instrumental outcomes are designated by superscript numerals. Adolescents in the treatment and comparison groups were also compared at intake by age of first arrest, age at referral, criminal history, and cognitive status. Adolescents and parents in both groups were asked to evaluate therapist characteristics at the end of treatment in order to assess whether outcomes could be related to therapist qualities.

3.5.1 Peabody Picture Vocabulary Test – Third Edition

Cognitive status was assessed at intake using the Peabody Picture Vocabulary Test – Third Edition (PPVT-III; Dunn & Dunn, 1997). Although the PPVT-III is designed as a screening test of verbal ability it was considered to be a proximate test

Table 3.1

Schedule of Instruments Administered

Instrument	Pre-treatment	Post-treatment
Adolescents Only		
Peabody Picture Vocabulary Test – III (Receptive Vocabulary)	Yes	No
Self-report Delinquency Scale[1]	Yes	Yes
Youth Coping Index[2]	Yes	Yes
Parents Only		
Life Distress Inventory[2]	Yes	Yes
Social Support Index[2]	Yes	Yes[3]
Revised Behavior Problem Checklist[1]	Yes	Yes
Parents and Adolescents		
Family Assessment Measure (General Scale)[2]	Yes	Yes
Holden Psychological Screening Inventory	Yes	No
Revised Helping Alliance Questionnaire	No	Yes

Note: [1]instruments used to measure ultimate outcomes; [2] instruments used to measure instrumental outcomes; [3] administered to only the parents in the treatment group at post-treatment.

of cognitive functions given the strong correlation between performance on the vocabulary subscale of the Wechsler tests and Full-Scale IQ (Enns & Reddon, 1998). The PPVT-III measures expressive and receptive vocabulary with separate tests. It was standardized on a stratified sample of 2,000 children, and 725 persons over the age of 19 years. Raw scores can be converted to standard scores, percentiles, stanines, normal curve equivalents, and age equivalents. The receptive vocabulary tests contain four practice items and 204 test items divided into 17 sets of 12 items each. Each item has four pictures and the test taker must select the picture that best represents the word presented orally by the examiner. An appropriate start point is determined and the test usually takes about 12 minutes to administer.

Coefficient alpha reliabilities and split-half reliability coefficients, using the Rasch split-half procedure, were used to determine internal consistency for the receptive vocabulary tests (Williams & Wang, 1997). Coefficient alpha reliabilities were calculated using all test items in each form. Values ranging from .92 to .98, with a median value of .95, were obtained for the 25 standardization age groups. However, estimated scores for incomplete items were included in these computations. Split-half reliability coefficients ranged from .86 to .97 with a median reliability of .94. Alternate-forms reliability coefficients were also calculated. All persons in the standardization sample took both forms of the receptive vocabulary test and reliability coefficients using the standard scores ranged from .88 to .96, with a median coefficient of .94. Test-retest reliabilities in the .90s were obtained using the scores of 226 participants in 4 age groups.

Four criterion validity studies were conducted during the standardization of the receptive vocabulary tests of the PPVT-III. Corrected correlations of .91, .82, and .90 were reported between Form IIIA of the PPVT-III and WISC-III Verbal IQ, Performance IQ, and Full-Scale IQ respectively. Correlations were corrected for the variability of the norm group based on the standard deviation obtained on the PPVT-III using Guilford's formula (Williams & Wang, 1997). Corrected correlations of .92, .84, and .90 were reported between Form IIIB and WISC-III Verbal IQ, Performance IQ, and Full-Scale IQ respectively. One sample of 41 children ranging in age from 7 years 11 months to 14 years 4 months was used in both validity studies.

3.5.2 Self-Report Delinquency Scale

Participation in antisocial behaviours that do not result in criminal convictions was assessed for individuals in both groups, at the beginning and end of treatment, using the Self-report Delinquency Scale (SRD; Elliott et al., 1983). The SRD consists of 47 items. Respondents are instructed to rate the frequency of specific behaviours over a specified time frame on a 7-point, likert scale. Self-reported criminal behaviour may yield a more accurate assessment of actual behaviour (Moffitt, 1993) and the SRD is considered to be one of the best self-report measures of delinquency (Henggeler et al., 1992). The measure has been shown to discriminate between mild and chronic offenders (Dunford & Elliott, 1984) and to predict serious reoffence (Elliott, Huizinga, & Ageton, 1985).

3.5.3 Revised Behavior Problem Checklist

Parents of adolescents in both groups completed the Revised Behavior Problem Checklist (RBPC; Quay & Peterson, 1996) at pre- and post-treatment intervals in order to assess adolescent functioning. The RBPC is an 89-item instrument that uses six scales to measure internalizing and externalizing behaviours, as well as psychiatric symptomatology, in children and adolescents. Children or adolescents with elevations on the Conduct Disorder subscale are often physically aggressive and threatening toward others. They may be openly defiant toward adults and have difficulty inhibiting verbal and interpersonal expressions of anger. These children frequently resist efforts by others to modify or restrict their behaviours. Elevated scores on the subscale measuring Socialized Aggression may identify individuals that are more likely to engage in disruptive and oppositional behaviours in public settings. These behaviours may include truancy, stealing, substance abuse, stealing, lying, and gang membership. Individuals with elevations on the Attention Problems-Immaturity subscale often exhibit symptoms associated with ADHD. These individuals often exhibit short attention spans, may be easily distracted, and have difficulty completing tasks. These individuals often present in an immature and childish manner when interacting with others.

Elevations on the Anxiety-Withdrawal subscale identify individuals likely to experience poor self-confidence and low self-esteem. Individuals with elevated scores on the Psychotic Behavior subscale may be most at risk to eventually develop a psychotic disorder with behaviours including repetitive and echolalic speech, delusional beliefs, and strange thoughts. These individuals are more likely to experience difficulties with reality testing and may struggle to differentiate between fantasy and reality. Elevations on the subscale measuring Motor Tension-Excess may identify individuals that are prone to somatic and motor symptoms and who may be characterized by motoric overactivity (Quay & Peterson, 1996). Externalizing behaviours are measured using the Conduct Disorder, Socialized Aggression, and Attention Problems-Immaturity subscales. Internalizing behaviours are assessed on the Anxiety-Withdrawal subscale, while psychiatric symptomatology is measured using the Psychotic-Behavior and Motor Tension-Excess subscales. The RBPC has been shown to predict serious delinquent behaviour (Hanson, Henggeler, Haefele, & Rodick, 1984).

Quay and Peterson (1996) reported coefficient alpha reliabilities for each of the six subscales. Reliability coefficients ranged from .92 to .95 for the Conduct Disorder subscale; from .85 to .93 for the Socialized Aggression subscale; from .87 to .94 for the Attention-Problems-Immaturity subscale; and .74 to .89 for the Anxiety-Withdrawal subscale. Reliability coefficients ranging from .68 to .80 and from .70 to .83 were reported for the Psychotic Behavior and Motor Tension-Excess subscales respectively. These values were obtained across five different clinical samples averaging approximately 202 children per sample with ratings obtained from staff members, teachers, and parents. Test-retest reliability was evaluated on a sample of 149 children in grades one to six. The checklist was completed by teachers in early October, and again two months later. Stability correlations ranged from .49 for

Socialized Aggression to .83 for Attention Problems-Immaturity. A stability correlation of .63 was obtained for Conduct Disorder.

Interrater reliability has been examined using mother-father ratings as well as intra-class ratings between teachers. Interparent correlations for the six subscales ranged from .55 to .93 with the highest value recorded for Socialized Aggression (*r* = .93) and the lowest value for Anxiety-Withdrawal (*r* = .55). Correlations between teachers ranged from .87 to .59 with the highest correlation reported for Conduct Disorder (*r* = .87) and the lowest correlation for Socialized Aggression (*r* = .59). Concurrent validity was examined by comparing clinical and non-clinical groups of children consisting of males and females. The differences between means, for both genders and on all six subscales were significant, and in the expected direction, at either the .01 or .001 levels of significance. Similar results were reported by Aman and Werry (as cited in Quay & Peterson, 1996).

3.5.4 Youth Coping Index

Adolescent coping was evaluated at pre- and post-treatment using the Youth Coping Index (YCI; McCubbin et al., 1995). The YCI consists of 31, 5-point likert items designed to assess the degree to which youth are able to use various coping skills and strategies to manage recurring stressors. It has been used with adolescent offenders and three subscales have been identified. The Youth Spiritual and Personal Development subscale consists of 13 items that consider the degree to which youth are able to engage in strategies that promote positive development and self-improvement when faced with hardships or crises. These strategies include efforts to promote spiritual and personal development. The Youth Positive Appraisal and Problem-Solving subscale includes 10 items that measure the respondent's ability to capitalize upon a positive and optimistic worldview, and to engage in effective problem solving to deal with stressors. This subscale includes items designed to measure the degree to which respondent's are able to call upon others, or their likelihood to offer their assistance, when facing problems. The Youth Incendiary Communication and Tension Management subscale includes eight items that measure the respondent's tendency to exacerbate problems through the use of misguided or ineffective strategies. Individuals who score high on this subscale often blame others, yell, and get angry when problems arise (McCubbin et al., 1995). Elevated scores on the first two subscales signify positive coping styles while high scores on the third subscale indicate negative coping strategies. Normative data was generated using a clinical sample of 430 adolescents in residential treatment. This sample was subsequently divided into smaller African-American and Caucasian samples. Percentile tables with standardized scores, means, and standard deviations are provided for each of the samples.

Overall internal consistency reliability for the YCI is .86. Reliability coefficients of .84, .79, and .70 have been reported for the Youth Spiritual and Personal Development subscale, the Youth Positive Appraisal and Problem Solving subscale, and the Incendiary Communication and Tension Management subscale, respectively. Short-term tests of reliability over time are not available for the YCI.

Test-retest procedures administered from 6 to 15 months apart yielded an overall correlation coefficient of .43.

3.5.5 Holden Psychological Screening Inventory

Psychological functioning in both adolescents and parents or guardians was assessed at intake with the Holden Psychological Screening Inventory (HPSI; Holden, 1996). The HPSI consists of 36, 5-point likert items that are divided into three primary scales that assess psychiatric symptomatology, social symptomatology, and depression, each consisting of 12 items. Psychiatric symptomatology includes psychotic processes, anxiety, and somatic preoccupations. The social symptomatology scale is sensitive to poor impulse control and inadequate or deviant socialization. The depression scale includes social introversion, feelings of pessimism, loss of confidence, and self-depreciation (Holden, 1996). Items are summed for each primary scale and a total scale score is calculated by adding the values obtained for each primary scale. A profile is generated using these totals and *T* scores can be determined from the profile. Cutoff scores based upon raw scores have been established to assist in identifying invalid profiles and interpretive guidelines based upon *T* scores have been generated. Norms were determined using a large community-based sample of 304 women and 259 men. Normative data for particular groups has also been obtained using samples of high school students, university students, psychiatric patients, and psychiatric offenders, and the measure is considered to be sensitive to changes that may occur over the course of treatment (Holden, 1996).

Examination of scale intercorrelations indicate that the scales are distinct with weighted mean intercorrelations between scales across eight samples ranging from .16 to .34. Criterion validity has been demonstrated by the inventory's ability to differentiate clinical and non-clinical populations at the .01 level of significance based upon mean total and primary scale scores. Holden and Grigoriadis (1995) reported averaged correlations between relevant clinical scales of the MMPI-2 and the three primary scales of the HPSI ranging from .37 to .57. The lowest convergence was reported for Social Symptomatology. Correlations of .57 and .56 were reported for the Psychiatric Symptomatology and Depression scales, respectively.

3.5.6 Family Assessment Measure (General Scale)

Adolescents and parents in both groups completed the General Scale of the Family Assessment Measure (FAM-III, Skinner et al., 1995) at intake, and following treatment, to assess family functioning. The authors of the Family Assessment Measure assume that families must organize themselves in order to accomplish basic and developmental tasks, and to resolve crises and unexpected situations. The General Scale consists of seven subscales designed to measure critical dimensions of family functioning. Task Accomplishment refers to the family's ability to meet daily tasks and to adapt in order to negotiate developmental or unexpected tasks. Role Performance refers to the differentiation and clarity of roles within the family and the ability and willingness of family members to assume new and appropriate roles in response to the changing needs and development of the family. Effective Communication is required in order to ensure that messages within the family are clear and that misunderstandings do not occur at the transmission or reception stage as a result of hostilities or misunderstandings within the family. Affective Expression is an essential element in effective communication and involves the timely and appropriate expression of emotion. Involvement refers to the nature and extent of involvement between family members as well as the family's ability to support the emotional and developmental needs of family members while respecting strivings for privacy and autonomy. Family members influence one another through the use of control. Control includes whether the families are predictable, constructive, and responsible, or unpredictable, destructive, and irresponsible. Values and Norms affect the way families approach tasks and the tasks they choose to address. Family values and norms are influenced by previous family experience as well as social and cultural forces which may be clearly expressed, understood, and accepted by all members of the family, or may be a source of confusion or disagreement.

Respondents are instructed to consider the entire family when completing the General Scale. Item scores are summed for each of the seven subscales and the resulting raw score is plotted and converted to a *T* score with a mean of 50 and standard deviation of 10. A total score is also computed and plotted on the same metric. Scores above 65 are considered to be problematic while those above 56 indicate increasing problems. Scores below 45 demonstrate increasing strength. Normative data was obtained from a non-clinical, Canadian sample of 247 adults and 65 adolescents. Means and standard deviations have also been reported for a number of clinical populations. The General Scale also includes Social Desirability and Defensiveness subscales to assess the validity of responses given.

Skinner et al. (1995) reported coefficient alpha reliabilities for the seven process scales on the General Scale ranging from .67 to .78 for adults and from .60 to .75 for children with overall values of .93 and .94 respectively. Jacob (1995) reported median test-retest reliabilities for the process subscales of the General Scale of .64 for mothers, .71 for fathers, and .75 for children, in a sample of 138 families. Jacob (1995) also reported that the General Scale of the FAM correlated highly and significantly with the Family Assessment Device (FAD; Epstein, Baldwin, & Bishop, 1982), a screening instrument that focuses on organizational and structural dimensions of the family. Significant correlations were also noted for the Cohesion scale of the Family Adaptability and Cohesion Evaluation Scales (FACES; Olson, Russell, & Sprenkle, 1979) and the Cohesion, Expression, Conflict, Intellectual-cultural Orientation, and Organization scales of the Family Environment Scale (FES; Moos & Moos, 1981).

3.5.7 Life Distress Inventory

Parental stress was measured at pre- and post-treatment intervals for parents in both groups using the Life Distress Inventory (LDI; Thomas et al., 1993). The LDI contains 18, 7-point likert items. A total score for General Distress can be obtained, and subscale scores can be calculated for Marital Concerns, Career Concerns, Outside Activities, Self and Family, and Life Satisfaction/Optimism. Total distress scores range from 0 to 126 and higher scores for the total or subscales reflect greater levels of distress. A coefficient alpha reliability of .85 has been reported for the total scale with alpha values ranging from a low of .55 for Career Concerns to .84 for Marital Concerns. (Thomas et al., 1993). Subscale alphas averaged .73. Test-retest reliability for the total score over a 6-month interval with a sample of 42 spouses not engaged in treatment was reported at .66. The LDI has been found to correlate positively with the Global Severity Index of the Brief Symptom Inventory and was not associated with socio-economic status, education, or religion (Thomas et al., 1993).

3.5.8 Social Support Index

Levels of social support were assessed for parents in both groups at the beginning of treatment using the Social Support Index (SSI; McCubbin et al., 1982). Only parents of adolescents in the treatment group completed the SSI at the end of treatment. This enabled comparison of parents in both groups at the beginning of treatment while recognizing that only the treatment intervention explicitly targeted improvements in the social networks and ecology of parents participating in treatment. The SSI consists of 17, 5-point likert items that assess the respondent's perception of support and safety in the community and the degree to which respondents derive esteem from their activities in the community. A total score is derived by summing the raw scores. No subscale scores are generated. Comparative data is available for farm and military families, families of investment executives and rural bank employees, and Native Hawaiian families. A coefficient alpha reliability of .82 is reported and test-retest reliability is reported at .83. No additional validity information is available for the SSI.

3.5.9 Revised Helping Alliance Questionnaire

The Revised Helping Alliance Questionnaire (HAq-II; Luborsky et al., 1996) was used in order to determine the possible effects of therapist factors, including training, gender, and therapeutic manner, on client outcomes. The HAq-II is a 19-item scale designed to measure therapeutic alliance. Each item contains a 7-point likert-scale ranging from "strongly agree" to "strongly disagree." A principal components analysis with a varimax rotation yielded three factors. Factor I explained slightly more than 43% of the variance. It contained 13 items and was labeled "positive therapeutic alliance." Factor II accounted for almost 11% of the variance and was labeled "negative therapeutic alliance." It contained four items. Mean scores are calculated for both factors by summing item scores and dividing by the total number of items for each factor. The third factor explained only 6% of the variance and was not retained. It included two items. One considers whether the therapist appeared to hinder progress in therapy, according to the client, while the other asks the client to evaluate his or her determination to address the problems brought to therapy. Luborsky et al. (1996) reported correlations between corrected item scores and the total scale ranging from .30 to .79 with 3 of the 19 correlations below .40 and a median correlation of. 64. A test-retest reliability coefficient of .78 was reported following the second and fifth sessions of therapy for a sample of 168 patients. Convergent validity was assessed using the California Psychotherapy Alliance Scale (CALPAS; Gaston & Marmar, 1994) with correlations ranging from .59 to .69 between the two instruments on three administrations over a 22-session span. The HAq-II was completed by adolescents and parents in both groups at the end of therapy. Scores were reported for the positive and negative therapeutic alliance. In addition, scores are reported for the one item that asks the participants to assess their motivation.

3.6 Data Captured at Pre- or Post-treatment Only or Obtained From Existing Data Bases

Adolescents in the treatment and comparison groups were compared on age at first conviction and age at time of referral for service. The age at referral was calculated using birth dates as reported in the Correctional Management Information System (COMIS) maintained by the Government of Alberta. COMIS tracks community and custodial dispositions in Alberta and was also used to identify convictions by type and number for adolescents in both groups prior to treatment, as well as charges and convictions by type and number for adolescents following treatment.

3.7 Data Analysis

Data analysis was conducted in three stages. First, adolescents in the treatment and comparison groups were compared at intake. Parents in the two groups were similarly compared at the beginning of treatment. Between-group differences were evaluated using independent sample *t*-tests. When appropriate, mean scores were evaluated against normative data using one-sample *z*-tests. Effect sizes (ES) were calculated and evaluated using Cohen's (1988) categorization for the size of effect (i.e., small < .3, medium ≥.3 and < .5, and large ≥.5). These results are presented in Chapter 4.

Second, adolescents in the treatment and comparison groups who completed pre-treatment measures, and some or all of the post-treatment measures, were compared to adolescents in both groups who completed the pre-treatment measures only, on specific variables at intake, and on recidivism following treatment. A two-by-two univariate analysis was used for these comparisons.

Third, a repeated measures analysis of variance was used to evaluate changes following treatment for adolescents and parents in the treatment and comparison groups. Significant time or group effects, or time by group interactions, were subsequently analyzed using paired-sample *t*-tests in order to determine the source of difference. Effect sizes were calculated for within-group mean differences from pre- to post-treatment. Official arrest records were used to monitor charges and convictions for adolescents in both groups for 6 months following treatment. Chi-square analyses were used to calculate the significance of differences between the treatment and comparison groups following treatment. A chi-square goodness-of-fit test was used to compare the actual frequencies reported following treatment, and hypothesized frequencies based upon an equal chance of offending or not offending following treatment. Correlations between recidivism in the 6 months following treatment, and selected variables for adolescents and parents at pre- and post-treatment intervals were examined using Pearson's point biserial correlation coefficient.

Significance levels of .10 and .05 are identified with one and two asterisks, respectively, in the repeated measures analyses. Although a significance level of .05 is most common (Kazdin, 1998), a second level of significance was also chosen to identify differences that might be clinically significant but undetected using the more stringent level of significance, possibly due to small sample sizes (Kazdin, 1998). Consequently, all *p* values of .10 or lower were flagged for discussion, although distinctions were made between values below the .10 level of significance and those below the .05 alpha. As noted above, this convention has been adapted for the repeated measures analysis only, and *p* values of .05 or lower, designated with one superscript asterisk, will be used elsewhere. SPSS® 10.0.1 (SPSS, 1999) and A_STAT (Reddon, 2000) software programs were used for data analysis.

3.8 Summary

The design of the research and the procedures used in this dissertation were detailed in this chapter, including the ethical review process, the recruitment of participants, and the process for obtaining consent. The intervention offered to participants in the home was described and compared to services-as-usual offered at the Centerpoint Clinic. The steps that were taken to protect the therapeutic integrity of the interventions were also identified. The instruments that were used to assess individual and family functioning at the beginning and end of treatment were identified and their psychometric properties were reviewed. Finally, the data analysis procedures were described.

CHAPTER 4

RESULTS I: EVALUATING PRE-TREATMENT EQUIVALENCE

4.1. Introduction

As noted previously, a nonequivalent control group design utilizing pre-treatment and post-treatment measures was used to evaluate the effects of the intensive, home-based treatment in comparison to the effects of services-as-usual at an existing outpatient clinic. Although adolescents were not randomly assigned to the two groups, they were compared on a number of variables associated with serious and chronic delinquency including age of first arrest and number of convictions prior to referral. Individuals were also compared by age at intake and on a measure of verbal proficiency.

In addition to the variables noted above, adolescents and parents in the treatment and comparison groups were compared at intake on measures of individual and family functioning. Section 4.2 contains an analysis of mean differences between the adolescents in the treatment and comparison groups, on measures of individual and family functioning, as well as an analysis of mean differences between the group mean and the normative data for both groups, where applicable. Section 4.3 contains an analysis of mean differences between parents of adolescents in the treatment and comparison groups at intake, and an analysis of mean differences between the group mean and the normative data for both groups. Mean differences between groups were evaluated using independent sample *t*-tests. Differences between the groups and normative samples were examined using 1-sample *z*-tests. Effect sizes have also been calculated, and are discussed with reference to Cohen's (1988) categorization for effect size.

4.1.1 Design of the Tables

Means and standard deviations for the treatment and comparison groups are reported in the same cells in the following tables. Treatment values are always reported directly above comparison group values. Only between-group comparisons and effect sizes are reported in Tables 4.2, 4.3, and 4.11. Treatment and comparison group means are compared to normative values, when applicable, and reported with effect sizes in the remaining tables, along with between-group comparisons and effect sizes. These values are reported in the last two right-hand columns with the normative group comparisons and effect sizes appearing before the between-group values. Statistically significant values ($p \leq .05$) are designated with a single superscript asterisk. In addition, mean values that are significantly higher or lower than the normative means are designated with an upward or downward pointing arrow respectively, adjacent to the appropriate mean. Tables 4.8, 4.9 and 4.13 summarize significant differences between adolescents or parents in each group and the normative data where applicable, and between the two groups. They are situated following the discussion of adolescents at intake and parents at intake.

4.2 Comparison of Adolescents at Intake

Adolescents in the treatment and comparison groups were compared on a number of dimensions at intake including age, vocabulary competency, official criminal history, self-reported delinquency, family functioning, and individual functioning. Group means and standard deviations are reported in the following section. Between-group comparisons are also provided and group comparisons to normative data are given where applicable. Effect sizes have been calculated for all comparisons.

4.2.1 Ages at First Arrest and Intake and Receptive Vocabulary at Intake

Means and standard deviations for age at first conviction, age at intake, and receptive vocabulary at intake are shown in Table 4.1. No significant differences were detected between the two groups when compared by age at first conviction. The mean age of first conviction for the treatment group was 165 months, which equates to 13 years and 9 months. The mean for the comparison group was 168 months, or 14 years. A large and significant effect (ES = .50, $p = .04$) was reported when the two groups were compared by age at intake. The mean age at referral for the treatment group was 184 months, which converts to 15 years and 4 months. Adolescents in the comparison group were 190 months on average at referral, or approximately 15 years and 10 months.

Eighteen adolescents in the treatment group agreed to complete Form III-B of the PPVT-III, while 15 adolescents in the comparison group agreed to complete the test. Unlike other measures administered for the purpose of this research, the PPVT-III was administered directly by the therapist working with the adolescent, and was the one most likely to be construed as a test of intelligence, or measure of academic or verbal proficiency. This may have contributed to the lower rate of compliance for

Table 4.1

Treatment and Comparison Groups by Age at Intake and Age of First Conviction with Comparisons Between Groups and Effect Size, and Receptive Vocabulary for Both Groups at Intake, with Effect Size (ES) and Comparisons with Normative Data and Between Groups

			Norms		Groups	
Treatment/ Comparison	Mean	SD	ES	*p*	ES	*p*
Age at first conviction in months	165.26^{1}	13.05				
	168.23^{2}	15.33			.21	.39
Age at intake in months	184.87^{1}	9.61				
	190.45^{2}	12.84			.50	.04*
Receptive Vocabulary at intake	101.89^{3}	8.84	.13	.58		
	104.13^{4}	8.46	.28	.29	.26	.45

Note. $^{*}p$ significant at 05; p-norms is the 2-tailed significance of the 1-sample z-test; p-groups is the 2-tailed statistical significance of the independent sample t-test; ^{1}n =38, ^{2}n = 31; ^{3}n = 18; ^{4}n = 15.

this test. It is also possible that higher functioning adolescents were more likely to consent and, as a result, the group means may be lower than those actually reported.

Receptive vocabulary was assessed using Form III-B of the Peabody Picture Vocabulary Test, Third Edition (PPVT-III; Dunn & Dunn, 1997). Standard scores are reported in Table 4.1. Both groups had slightly higher mean scores than the normative data. Neither of these differences was statistically significant so both groups were considered to be equivalent to the normative sample. No significant differences emerged when the two groups were compared at intake.

4.2.2 Official Criminal History at Intake

Individuals in this study frequently had convictions for more than one type of offence. Criminal history was examined by considering the total number of convictions by offence type for each individual, as well as the total number of all convictions for each individual. Treatment and comparison means and standard deviations were calculated for convictions by type by adding the total number of convictions for each group by type and dividing the totals by the number of adolescents in each group with convictions for each particular type. A total mean and standard deviation was also calculated for all convictions in the treatment and comparison groups. In this case mean values and standard deviations were calculated by dividing the total number of all convictions for adolescents in the treatment and comparison groups by the total number of individuals with convictions in each of the two groups. Kern and Bales' (1980) mean ranking of criminal severity was adapted to calculate a mean severity ranking for the total of all convictions by group.

The means and standard deviations for both groups for convictions by type, for the total of all convictions by group, and for the severity rating of all offences by group, are reported in Table 4.2. A large and significant effect (ES = .61, $p = .01$) was reported for motor-vehicle related offences, as a result of the higher treatment mean. Higher treatment means also contributed to a medium and significant effect for miscellaneous property offences (ES = .48, $p = .05$). Mean values for the comparison group never exceeded the group means reported for the treatment group. No significant differences were detected when the two groups were compared by the mean total for all offences, and the mean severity rating of all offences.

One outlier was identified for the treatment group. This individual had accumulated a total of 41 convictions, more than three standard deviations above the mean for the treatment group, primarily for failures to comply, theft, and property and motor-vehicle related offences. The mean for the total of all offences for the treatment group dropped to 7.38 (SD = 6.09) when this case was temporarily removed for the purpose of comparing the two groups at the beginning of treatment.
This reduced the effect size to .04 ($p = .88$). The mean for total severity of all offences dropped to 71.65 (SD = 56.87) when the outlier was removed.

4.2.3 Self-Report Delinquency at Intake

Official records of arrest are thought to reflect only a small portion of actual delinquent activity (Moffitt, 1993). Participants were asked to complete the Self-Report Delinquency Scale (Elliott et al., 1983) to indicate their level of involvement in criminal activity in the year preceding treatment. Results were analyzed using the

Table 4.2

Means and Standard Deviations for Adolescents by Group at Intake by Offence Type, by Total of all Offences by Group, and by Mean Severity Rating for all Offences by Group with Comparisons Between Groups and Effect Size (ES)

					Groups	
Treatment[1]/ Comparison[2]	Adolescents Convicted	Total Convictions	Mean	SD	ES	*p*
Failures to Comply	23	94	4.09	3.33		
	15	55	3.67	2.26	.14	.55
Break and Enter/Theft	27	116	4.30	3.69		
	25	89	3.56	2.95	.22	.37
Other Property	15	30	2.00	1.41		
	11	15	1.36	1.21	.48	.05*
Motor Vehicle related	8	16	2.00	1.60		
	4	5	1.25	.50	.61	.01*
Alcohol or Drug related	4	4	1.00	.00		
	3	3	1.00	.00	--	--
Uttering Threats	1	1	1.00	.00		
	3	3	1.00	.00	--	--
Assault	18	33	1.83	1.47		
	13	23	1.77	1.69	.04	.88
Obstruction	6	9	1.50	.84		
	3	3	1.00	.00	--	--
Indecent Acts	2	2	1.00	.00		
	1	1	1.00	--	--	--
Other	6	9	1.50	.84		
	12	27	1.25	2.05	.17	.50
Total	38	314	8.26	8.11		
	31	222	7.16	5.72	.15	.53

Mean Severity Rating	38	--	79.89	75.70		
	31	--	63.32	50.31	.25	.30

Note. *p significant at .05; p-groups is the 2-tailed statistical significance of the independent sample t-test; [1]n = 38; [2]n = 31.

categories identified by Dunford and Elliott (1984), and mean scores and standard deviations are reported in Table 4.3. Contrary to the results reported when the official arrest records were examined, significant differences were detected between the treatment and comparison groups when self-report delinquency was considered. Large and significant effects were noted for Felony Theft (ES = .56, $p = .04$), Robbery (ES = .57, $p = .04$), Hard Drugs (ES = .72, $p = .00$), Marijuana Use (ES = .80, $p = .00$), Illegal Services (ES = .56, $p = .04$), and Index Offenses (ES = .66, $p = .01$), with the comparison group reporting significantly greater involvement in these activities than the treatment group. A large and significant effect size was also reported for General Delinquency (ES = .70, $p = .01$), with the comparison group again reporting a higher mean score than the treatment group. Finally, a large and significant effect was reported for the Total Score (ES = .72, $p = .00$) as a result of the higher comparison mean. This contrasts with the official arrest record where there were either no significant differences between the comparison group and the treatment group, or the treatment group reported significantly higher mean scores only for "other property offences" and "motor-vehicle related" offences.

The more extensive involvement in delinquent behaviours, reported by adolescents in the comparison group, may be associated with their slightly older age. Moffitt (1993), and Caspi and Moffitt (1995), reported that involvement in antisocial and criminal behaviour peaks at 16 to 17 years of age when as many as 65% of adolescents report some involvement in delinquent behaviours. Adolescents in the comparison group were, on average, approaching their 16th birthday at intake, and

Table 4.3

Group Means and Standard Deviations on Self Report Delinquency Scale for Adolescents by Group at Intake with Effect Size (ES) and Comparisons by Group

			Groups	
Treatment[1]/ Comparison[2]	Mean	SD	ES	*p*
Felony Assault	3.22	1.02		
	3.46	.98	.24	.34
Felony Theft	3.44	1.16		
	4.50	2.64	.56	.04*
Robbery	3.08	.50		
	3.50	.98	.57	.04*
Minor Theft	3.75	1.81		
	4.54	2.26	.40	.14
Minor Arrests	3.71	1.79		
	4.63	2.00	.49	.07
Damage to Property	3.39	.99		
	3.92	1.18	.49	.06
Hard Drugs	5.03	.17		
	5.46	.93	.72	.00*
Marijuana Use	1.75	1.46		
	3.08	1.93	.80	.00*
Illegal Services	3.44	1.34		
	4.71	3.17	.56	.04*
Index Offenses	9.75	1.84		
	11.46	3.45	.66	.01*
General Delinquency	24.28	7.35		
	30.33	10.36	.70	.01*
Total Score	59.13	15.48		
	72.33	21.99	.72	.00*

Note. $^*p$ significant at 05; p-groups is the 2-tailed statistical significance of the independent sample t-test; ^{1}n =36, ^{2}n = 24.

were approximately 6 months older than adolescents in the treatment group. The higher levels of involvement in self-report delinquency by adolescents in the comparison group may reflect the tendency towards a peak of involvement around the age of 16 to 17 years. Given the similarity of the groups with relation to the age of first-arrest, and the number of previous convictions, it is possible that the adolescents in the treatment group are as likely as those in the comparison group to engage in delinquent behaviours and that the heightened level of involvement reported by adolescents in the comparison group is primarily a function of the age difference already noted, rather than a measure of more entrenched criminality or antisocial sentiments.

4.2.4 Adolescent Behaviour at Intake as Reported by Parent

Parent-ratings of adolescent behaviours using the Revised Behavior Problem Checklist are reported for both groups at intake in Table 4.4. Mean *T* scores and standard deviations are reported by group for each subscale. Both groups are compared to the normative data and between-group comparisons are provided. Effect sizes have been calculated for all comparisons.

Forty-eight parents from 36 different families completed the pre-treatment checklist on adolescents in the treatment group, while 27 parents from 20 different families completed the checklist for adolescents in the comparison group. Only one checklist was entered for analysis on each adolescent at the pre-treatment stage, in order to avoid over-reporting. Each case was evaluated in order to determine which response should be included at the pre-treatment stage. In cases where more than one

Table 4.4

Means and Standard Deviations for the Revised Behavior Problem Checklist for Adolescents by Group at Intake with Effect Size (ES) and Comparisons with Normative Data and Between Groups

			Norms		Group	
Treatment[1]/ Comparison[2]	Mean	SD	ES	*p*	ES	*p*
Conduct Disorder	50.87	7.16	.09	.60		
	55.50↑	10.66	.55	.01*	.54	.06
Socialized Aggression	60.33↑	7.99	1.03	.00*		
	64.25↑	8.40	1.43	.00*	.48	.09
Attention Problems – Immaturity	52.58	9.51	.26	.12		
	53.35	11.32	.34	.13	.08	.79
Anxiety-Withdrawal	49.47	7.72	.05	.75		
	51.85	8.46	.19	.41	.30	.29
Psychotic Behavior	48.86	6.50	.11	.49		
	53.35	7.88	.34	.13	.64	.03*
Motor Tension – Excess	48.83	8.20	.12	.48		
	49.60	7.88	.04	.86	.09	.73

Note. **p* significant at .05; *p*-norms is the 2-tailed statistical significance of the 1-sample *z*-test comparing the groups with a normative sample by subscale and total scale; *p*-groups is the 2-tailed statistical significance of the independent sample *t*-test by subscale; [1]n = 36; [2] n = 20; ↑ denotes significantly higher than the normative data at .05.

parent completed both the pre- and post-treatment measures the response of the parent that had resided with the adolescent for the longest period of time was used for analysis. If both parents had resided with an adolescent for an equal period of time, preference was given to the mother's response because mothers were more commonly included, as a result of the selection process described above, than fathers.

As a result, 30 of the 36 checklists included for the adolescents in the treatment group at the pre-treatment stage were completed by mothers, with the exception of one that was completed by a female caregiver from the maternal side of the family. Mothers completed 19 of the 20 checklists included for the comparison group. The greater use of pre-treatment checklists completed by mothers is also consistent with their greater level of involvement in therapy. Mothers represented 67% of the parents involved in the home-based intervention. This figure includes the one female caregiver noted above. Seventy-four percent of the parents of adolescents in the comparison group who participated in treatment were mothers.

Significant differences were reported between both groups and the normative data on Socialized Aggression. Large effect sizes with respect to the norms were also noted (ES = 1.03, $p = .00$ and ES = 1.43, $p = .00$ for treatment and comparison groups, respectively). Individuals who are rated high on the Socialized Aggression scale may engage in many of the behaviours associated with CD including stealing, substance abuse, truancy, gang membership, and lying (Quay & Peterson, 1996). A significant difference and large effect (ES = .55, $p = .01$) was also noted when the comparison group was compared to the normative data on the Conduct Disorder subscale. Individuals with elevations on Conduct Disorder may be physically intimidating and aggressive and have difficulty controlling or inhibiting verbal and interpersonal expressions of anger. They are often defiant toward authority in a variety of settings. There were no other significant differences between either the treatment or comparison group, and the normative data.

A significant between-group difference, and large effect (ES = .64, $p = .03$), was reported on the Psychotic Behavior subscale. Although the comparison group mean value was higher than the treatment group mean value on this particular subscale, it was not significantly elevated when compared to the normative data.

4.2.5 Adolescent Report of Family Functioning at Intake

Family functions were assessed at intake using the General Scale of the Family Assessment Measure (FAM). Mean scores are reported in Table 4.5. Individuals were asked to complete the scale with reference to their entire family.

Interpretive guidelines (Skinner et al., 1995) for the General Scale and the Dyadic Scale indicate that the majority of scores (i.e., 68%) should fall between 40 and 60. Scores above 60 indicate serious disturbance in family functioning, while those below 40 indicate very effective family functioning, relative to the normative sample. A mean value of 60.07 was reported for the comparison group on the Involvement subscale. All other scores fell within the average range, although a number of values for both groups exceeded 56 (73rd percentile) and warrant consideration according to the interpretive guidelines established by Skinner et al. (1995).

Table 4.5

Means and Standard Deviations for the Family Assessment Measure (General Scale) for Adolescents by Group at Intake with Effect Size (ES) and Comparisons with Normative Data and Between Groups

			Norms		Groups	
Treatment[1]/ Comparison[2]	Mean	SD	ES	*p*	ES	*p*
Task Accomplishment	57.09↑	9.84	.71	.00*		
	56.97↑	10.82	.70	.00*	.01	.96
Role Performance	54.86↑	10.93	.49	.00*		
	56.34↑	8.55	.63	.00*	.15	.56
Communication	56.34↑	10.36	.63	.00*		
	57.52↑	11.82	.75	.00*	.11	.67
Affective Expression	56.63↑	9.52	.66	.00*		
	54.14↑	10.45	.41	.03*	.25	.32
Involvement	55.94↑	13.46	.59	.00*		
	60.07↑	12.02	1.01	.00*	.32	.20
Control	54.11↑	11.37	.41	.02*		
	56.76↑	10.99	.68	.00*	.24	.35
Values and Norms	50.40	10.59	.04	.81		
	53.79↑	11.13	.40	.04*	.31	.22
Total	55.04↑	8.91	.50	.00*		
	56.53↑	9.28	.65	.00*		
Social Desirability	47.20	8.16	.28	.10		
	43.10↓	7.83	.69	.00*	.51	.05*
Defensiveness	48.80	12.53	.12	.48		
	44.29↓	11.81	.57	.00*	.37	.15

Note. $^*p$ significant at .05; *p*-norms is the 2-tailed statistical significance of the 1-sample *z*-test comparing the groups with the normative sample by subscale and total scale; *p*-groups is the 2-tailed statistical significance of the independent sample *t*-test by subscale; ^{1}n = 35; ^{2}n = 29; ↑ and ↓ denotes significantly higher or lower, respectively, than the normative data at .05.

Significant differences and medium to large effects were reported for both groups when compared to the normative data, on virtually all of the subscales measuring family processes, as well as the subscale measuring overall family functioning. The one exception was for the treatment group on the Values and Norms subscale.

The largest effects for the treatment group, when compared to the normative data, were reported on the Task Accomplishment (ES = .71, $p = .00$), Communication (ES = .63, $p = .00$), and Affective Expression subscales (ES = .66, $p = .00$). Families with elevations on these subscales often have difficulties organizing members in order to complete daily tasks, and disagree about the allocation of tasks and responsibilities. Communication in these families may be strained and unclear (Skinner et al., 1995).

The largest effects for the comparison group, when compared to the normative data, were reported on the Task Accomplishment (ES = .70, $p = .00$), Role Performance (ES = .63, $p = .00$), Communication (ES = .75, $p = .00$), Involvement (ES = 1.01, $p = .00$), and Control (ES = .68, $p = .00$) subscales. Difficulties associated with elevations on Task Accomplishment and Communication were described above. Elevated scores for Role Performance may indicate that families are unable to adapt to the new roles required to negotiate the various stage of the family life cycle. Individuals may adopt idiosyncratic roles or fail to agree on role definitions. Elevations on Involvement may indicate that family members feel disconnected from one another and lack a sense of cohesion or loyalty to the family or other family members. Families with elevations on the Control subscale may be overly rigid, or extremely chaotic, and relationships between family members may be characterized by control and dominance. Elevations on this scale may also indicate that parental attempts to establish control in the family are ineffective, and may involve overt or covert power struggles (Skinner et al., 1995).

No significant differences were reported on any of the subscales measuring family processes when the treatment and comparison groups were compared. A statistically significant between-group difference, and large effect (ES = .51, *p* = .05), did emerge on the Social Desirability subscale. The comparison mean was also significantly lower than the normative data on this subscale, and on the Defensiveness subscale, with large effects reported in both cases (ES = .69, *p* = .00 and ES = .57, *p* = .00, respectively). All mean scores fell below 50 on the Social Desirability and Defensiveness subscales. Skinner et al. (1995) reported that scores below 50 generally indicate that respondents did not alter their responses to present themselves in a more favorable light, although low scores on these scales do not guarantee valid responses, and respondents with significantly lower scores than the norms may be less socialized or may be prone to exaggeration. It should be noted that, although the Social Desirability and Defensiveness means for the comparison group were significantly below the normative mean of 50, they still fell within the average range as established by Skinner et al. (1995).

4.2.6 Adolescent Report of Individual Functioning at Intake

Individual functioning at intake was assessed for adolescents in both groups using the Holden Psychological Screening Inventory. Mean scores and standard deviations for the three primary scales, and the total mean score, for the treatment and comparison groups, are shown in Table 4.6. Both groups are compared to a normative sample of 61 male high school students. Effect sizes for this comparison are provided. Mean differences between the treatment and comparison group, and effect sizes, are also given.

No significant differences were reported on the three subscales, or the total scale, when the treatment and comparison groups were compared to the normative data, with one exception. The treatment group mean value for Depression was significantly higher than the normative sample and a medium effect size (ES = .46, *p* = .00) was detected. A statistically significant difference and medium effect (ES = .48, *p* = .05) was reported for Depression when the treatment and comparison groups were compared, with the treatment group mean exceeding the mean for the comparison group. Elevations on the Depression subscale may reflect feelings of despondency and worthlessness, and a tendency to avoid others and to blame oneself for failures and shortcomings (Holden, 1996).

Cutoff scores have been established for the Total Psychopathology scale to identify invalid respondents (Holden, 1996). *T* scores in excess of 70 may be

Table 4.6

Means and Standard Deviations for the Holden Psychological Screening Inventory by Subscale and Total for Adolescents by Group at Intake with Effect Size (ES) and Comparisons with Normative Data and Between Groups

			Norms		Groups	
Treatment[1]/ Comparison[2]	Mean	SD	ES	*p*	ES	*p*
Psychiatric Symptomatology	8.89	5.13	.17	.22		
	8.00	5.32	.35	.06	.17	.49
Social Symptomatology	14.71	5.58	.03	.87		
	15.34	5.23	.05	.78	.12	.64
Depression	20.87↑	7.00	.46	.00*		
	17.72	5.53	.07	.72	.48	.05*
Total psychopathology	43.39	9.64	.06	.73		
	41.07	8.37	.10	.58		

Note. **p* significant at .05; *p*-norms is the 2-tailed statistical significance of the 1-sample Z-test comparing the groups with a normative sample by subscale and total scale; *p*-groups is the 2-tailed statistical significance of the independent sample *t*-test by subscale; [1]n = 38; [2] n = 29; ↑ denotes significantly higher than the normative data at .05.

invalid, while those in excess of 80 are probably invalid. Scores below 30 may also be invalid while those below 20 are probably invalid. No respondents in the treatment group had scores below 30 for Total Psychopathology. Two respondents reported scores of 71 and 72. No respondents in the comparison group had *T* scores below 30 or above 70. Consequently, all responses were considered to be valid.

4.2.7 Adolescent Report of Coping at Intake

Youth in the two groups were also compared at intake using a self-report measure of coping styles. Mean scores and standard deviations for the three subscales and the Total Scale of the Youth Coping Index are shown in Table 4.7. The treatment and comparison groups were compared to a normative sample consisting of 430 delinquent youth. Mean differences and effect sizes are reported. Between-group differences and effect sizes are also given.

No significant differences were reported between the normative sample and either group when the Total Scale mean scores were examined. A significant difference was noted between the comparison group and the normative sample on the Positive Appraisal and Problem-solving subscales. The comparison mean was higher than the normative data and a medium effect size (ES = .42, $p = .03$) emerged. A significant difference and large effect (ES = .52, $p = .04$) was reported on this subscale when the treatment and comparison groups were compared, with the comparison mean being higher than the treatment mean. Elevated scores on Positive Appraisal and Problem Solving indicate that individuals in the comparison group may be more likely to seek the assistance of others in order to cope, and to adopt an

Table 4.7

Means and Standard Deviations for the Youth Coping Index by Subscale and Total Scale for Adolescents by Group at Intake with Effect Size (ES) and Comparisons with Normative Data and Between Groups

			Norms		Groups	
Treatment^1/ Comparison^2	Mean	SD	ES	*p*	ES	*p*
Spiritual and Personal Development	35.95	8.10	.10	.53		
	34.41	6.36	.25	.17	.21	.40
Positive Appraisal and Problem Solving	33.22	6.29	.01	.93		
	36.38↑	5.67	.42	.03*	.52	.04*
Incendiary Communication and Tension Management	23.54	3.77	.07	.64		
	24.31	4.18	.21	.25	.19	.44
Total Scale	92.73	11.99	.04	.78		
	94.97	10.45	.09	.62		

Note. **p* significant at .05; *p*-norms is the 2-tailed statistical significance of the 1-sample *z*-test comparing the groups with a normative sample by subscale and total scale; *p*-groups is the 2-tailed statistical significance of the independent sample *t*-test by subscale; ^{1}n = 37; ^{2} n = 29; ↑ denotes significantly higher than the normative data at .05.

independent decision-making style (McCubbin et al., 1995). Although these skills are often regarded as strategies for prosocial development, they could also characterize adolescents who are engaged in defiant and antisocial behaviours and have access to like-minded peers.

4.2.8 Summary of Adolescent Characteristics at Intake

A summary of significant differences between the treatment and comparison groups on demographic data, and measures of delinquency and conduct problems, at intake, is provided in Table 4.8. No significant differences were reported between adolescents in the treatment and comparison groups for age at first conviction or receptive vocabulary at intake. A significant difference was reported between the two groups for age at intake, with the comparison group averaging 15 years and 10 months of age, approximately 6 months older than the treatment group.

Ultimate outcomes relating to delinquency and conduct problems were previously identified. Both groups of adolescents were compared at intake on measures of delinquency and conduct problems. No significant differences were reported between the two groups when the mean number of all convictions, and the mean severity rating for all convictions, were compared. Significant differences were detected when the two groups were compared for self-report delinquency. Adolescents in the comparison group reported significantly higher levels of involvement on Felony Theft, Robbery, Index Offences, Marijuana Use, Hard Drugs, Illegal Services, General Delinquency, and Total Delinquency. Large effect sizes were reported for each category.

Table 4.8

Summary of Significant Between-group Differences for Adolescents for Demographic Data, Delinquency, and Conduct Problems at Intake, with Normative Comparisons and Effect Size (ES)

	Norms		Groups	
Treatment/ Comparison	ES	*p*	ES	*p*
Age at Intake in Months	n.a.	n.a.	.50	.04*
Convictions by Offence Type at Intake				
Other property	n.a.	n.a.	.48	.05*
Motor-vehicle Related	n.a.	n.a.	.61	.01*
Self-report Delinquency Scale				
Felony Theft	n.a	n.a	.56	.04*
Robbery	n.a.	n.a.	.57	.04*
Hard Drugs	n.a.	n.a.	.72	.00*
Marijuana Use	n.a.	n.a.	.80	.00*
Illegal Services	n.a.	n.a.	.56	.04*
Index Offenses	n.a.	n.a.	.66	.01*
General Delinquency	n.a.	n.a.	.70	.01*

Total Delinquency	n.a.	n.a.	.72	.00*
Revised Behavior Problem Checklist				
Conduct Disorder	-- .55↑	-- .01*	--	--
Socialized Aggression	1.03↑ 1.43↑	.00* .00*	--	--
Psychotic Behavior	-- --	-- --	.64	.03*

Note. *p significant at .05; p-norms is the 2-tailed statistical significance of the 1-sample z-test comparing the groups with a normative sample by subscale and total scale; p-groups is the 2-tailed statistical significance of the independent sample t-test by subscale; ↑ indicates elevated mean when compared to normative data at .05.

Significantly higher mean scores were reported for both groups, when compared to the normative sample, on the Revised Behavior Problem Checklist for Socialized Aggression. A significantly higher mean score was also reported for the comparison group, when compared to the normative sample, for Conduct Disorder. Large effect sizes were reported for the differences on these subscales and no between-group differences were detected.

Instrumental outcomes were previously identified on the basis of their empirical association with delinquency and included measures of individual and family functioning. Differences between each group and the normative data, and between the two groups, on measures of individual and family functioning at intake, are identified in Table 4.9. Adolescents in both groups reported significantly higher levels of concern with overall family functioning, when compared to the normative sample on the Family Assessment Measure, although all subscale scores fell within the average range, with the exception of the Involvement subscale for the comparison group. An analysis of FAM subscales indicated that the two groups were similar on the seven clinical subscales measuring family processes. All subscale mean scores were significantly elevated, when compared to the normative sample, with the exception of the treatment group mean for Values and Norms. An examination of mean scores for Social Desirability and Defensiveness indicated that, on average, the responses were valid for both groups.

The treatment mean for Depression on the Holden Psychological Screening Inventory was significantly higher than the normative mean and differed significantly

Table 4.9

Summary of Significant Between-group Differences for Adolescents on Measures of Individual and Family Functioning at Intake, with Normative Comparisons and Effect Size (ES)

	Norms		Groups	
Treatment/ Comparison	ES	*p*	ES	*p*
Family Assessment Measure				
Task Accomplishment	.71↑	$.00^*$		
	.70↑	$.00^*$	--	--
Role Performance	.49↑	$.00^*$		
	.63↑	$.00^*$	--	--
Communication	.63↑	$.00^*$		
	.75↑	$.00^*$	--	--
Affective Expression	.66↑	$.00^*$		
	.41↑	$.03^*$	--	--
Involvement	.59↑	$.00^*$		
	1.01↑	$.00^*$	--	--
Control	.41↑	$.02^*$		
	.68↑	$.00^*$	--	--
Values and Norms	--	--		
	.40↑	$.04^*$	--	--
Social Desirability	--	--		
	.69↓	$.00^*$	.51	$.05^*$
Defensiveness	--	--		
	.57↓	$.00^*$	--	--
Holden Psychological Screening Inventory				
Depression	.46↑	$.00^*$		
	--	--	.48	$.05^*$

Youth Coping Index				
Positive Appraisal and Problem Solving	-- .42↑	-- .03*	.52	.04*

Note. *p significant at .05; p-norms is the 2-tailed statistical significance of the 1-sample z-test comparing the groups with a normative sample by subscale and total scale; p-groups is the 2-tailed statistical significance of the independent sample t-test by subscale; ↑ and ↑ indicate higher or lower mean, respectively, when compared to the normative data at .05.

from the mean for the comparison group. Medium effects were reported in both cases. No other differences between either group and the normative data, or between the two groups, were reported on the HPSI. An evaluation of coping styles using the Youth Coping Index showed that the two groups resembled the normative sample when overall coping strategies were evaluated. A significantly higher mean score was reported for the comparison group for Positive Appraisal and Problem Solving when compared to the normative data, and to the treatment group. The two groups resembled the normative sample, and each other, on the remaining two subscales.

Although it was not possible to randomly assign participants to the treatment and comparison conditions, the two groups were equivalent at intake in many areas considered to be essential for this evaluation, including receptive vocabulary, age of first conviction, official criminal history, family functioning, psychiatric and social symptomatology, socialized aggression, and general coping strategies.

4.3 Comparison of Parents at Intake

Parents of adolescents in the treatment and comparison groups were compared on measures of family functioning, individual functioning, subjective distress, and social support, at intake. Group means and standard deviations are reported in the section that follows. Group comparisons to normative data are provided, when applicable, and between-group comparisons are also provided. Effect sizes have been calculated and are discussed with reference to Cohen's (1988) categorization for effect size.

4.3.1 Parental Reports of Family Functioning at Intake

Parental reports of family functioning at intake were examined using the General Scale of the Family Assessment Measure. Subscale and Total Scale means and standard deviations are reported in Table 4.10. The treatment and comparison groups were compared to the normative data and effect sizes are reported. Between-group differences were also examined and effect sizes for these differences are reported.

Significant differences and medium to large effects were reported in every instance when the two groups were compared to the normative data on the subscales measuring family processes at intake. Effect sizes ranged from .74 (p = .00) for the treatment group on Affective Expression to 1.38 (p = .00) for the comparison group on Role Performance, and group means were significantly higher than the normative means in every instance.

Skinner et al. (1995) reported that scores of 60 or higher exceed the normal range. Treatment group means equaled or exceeded 60 for Role Performance and Communication and large effect sizes (ES = 1.05, p = .00 and ES = 1.03, p = 00, respectively) were reported when the treatment means were compared to the normative means at intake. Adolescents in these families reported elevations of a slightly lesser magnitude on Task Accomplishment, Communication, and Affective Expression at intake. Parents in the comparison group reported mean scores of 60 or higher, and large effect sizes when compared to the normative data, at intake, on the Task Accomplishment (ES = 1.21, p = 00), Role Performance (ES = 1.38, p = .00),

Table 4.10

Means and Standard Deviations for the Family Assessment Measure (General Scale) for Parents by Group at Intake with Effect Size (ES) and Comparisons with Normative Data and Between Groups

			Norms		Groups	
Treatment[1]/ Comparison[2]	Mean	SD	ES	*p*	ES	*p*
Task Accomplishment	58.09↑	9.58	.81	.00*		
	62.07↑	11.60	1.21	.00*	.38	.11
Role Performance	60.45↑	11.27	1.05	.00*		
	63.79↑	8.98	1.38	.00*	.32	.18
Communication	60.27↑	9.82	1.03	.00*		
	61.24↑	9.83	1.12	.00*	.10	.68
Affective Expression	57.36↑	8.97	.74	.00*		
	58.55↑	7.03	.86	.00*	.14	.55
Involvement	59.59↑	9.26	.96	.00*		
	62.07↑	10.49	1.21	.00*	.25	.29
Control	59.00↑	9.14	.90	.00*		
	62.34↑	11.20	1.23	.00*	.33	.17
Values and Norms	57.81↑	7.77	.78	.00*		
	59.93↑	9.09	.99	.00*	.25	.29
Total	58.96↑	6.88	.90	.00*		
	61.13↑	8.04	1.11	.00*		
Social Desirability	43.59↓	6.02	.64	.00*		
	38.62↓	5.61	1.14	.00*	.85	.00*
Defensiveness	43.45↓	9.13	.66	.00*		
	40.00↓	7.84	1.00	.00*	.40	.10

Note. $^{*}p$ significant at .05; p-norms is the 2-tailed statistical significance of the 1-sample z-test comparing the groups with the normative sample by subscale and total scale; p-groups is the 2-tailed statistical significance of the independent sample t-test by subscale; ^{1}n = 44; ^{2}n = 29; ↑ and ↓ denotes significantly higher or lower, respectively, than the normative data at .05.

Communication (ES = 1.12, $p = .00$), Involvement (ES = 1.21, $p = .00$), and Control (ES = 1.23, $p = .00$) subscales. Adolescents in the comparison group also reported significant elevations on each of these subscales at intake.

No significant between-group differences were reported at intake, with the exception of Social Desirability. Means for both groups were significantly below the normative sample on this subscale and the comparison mean was significantly lower than the treatment mean (ES = .85, $p = .00$). Treatment group means on both the Social Desirability and Defensiveness subscales were slightly above 40 while comparison means on these subscales were at or slightly below 40. This suggests that the respondents were less likely to conceal information regarding general or specific problems in order to present their families in a favorable light, although scores below 40 may indicate a tendency to over-report pathology and thus exaggerate the degree of distress within the family (Skinner et al., 1995). The Social Desirability mean for adolescents in the comparison group was also significantly lower than the mean for adolescents in the comparison group, although it was above 40 and remained in the average range.

4.3.2 Parental Reports of Life Distress and Social Support at Intake

Levels of perceived social support and stress at intake were measured using the Social Support Index and the Life Distress Inventory. Mean scores and standard deviations for both measures are reported in Table 4.11, along with effect sizes and comparisons between groups. Both the Social Support Index and Life Distress

Table 4.11

Means and Standard Deviations for the Life Distress Inventory and Social Support Index for Parents by Group at Intake with Effect Sizes (ES) and Comparisons Between Groups

			Groups	
Treatment/ Comparison	Mean	SD	ES	*p*
Life Distress Inventory[1]				
Marital Concerns	9.33	6.31		
	9.74	5.04	.07	.79
Career Concerns	7.76	3.36		
	6.83	3.19	.28	.28
Outside Activities	4.14	1.88		
	4.70	2.62	.26	.32
Self and Family	15.88	4.95		
	15.91	4.61	.01	.98
Life Satisfaction/Optimism	5.67	2.58		
	6.49	2.17	.34	.20
Total Scale Score	42.79	15.14		
	43.74	13.46	.07	.80
Social Support Index[2]				
Social Support	45.43	9.16		
	44.75	7.48	.08	.80

Note. *p*-groups is the 2-tailed statistical significance of the independent sample *t*-test; [1] treatment n =42, comparison n = 23; [2] treatment n = 35, comparison n = 16.

Inventory were chosen to evaluate between-group differences in order to assess similarities at intake. Reference group data is available for both instruments but no normative groups are referenced because of the demographic and clinical differences between those groups and the groups in this study. American farm families, Native Hawaiian families, families of investment executives, military families, and families of rural bank employees, were used to provide comparative data for the Social Support Index (McCubbin et al., 1982). The Life Distress Inventory was developed using primarily white, educated, middle-class spouses of male alcoholics (Thomas et al., 1993).

No significant differences emerged between the two groups on any of the subscales of the Life Distress Inventory, or the Social Support Index, at intake. Consequently, both groups were considered to be similar in terms of perceived social support and life distress at intake.

4.3.3 Parental Reports of Individual Functioning at Intake

Individual functioning was assessed for parents at intake using the Holden Psychological Screening Inventory. Mean scores and standard deviations are provided in Table 4.12. Both groups were compared to the normative data at intake. Mean differences and effect sizes, with reference to the normative data, are reported. Between-group differences and effect sizes are also given.

Parents in the treatment group differed significantly from the normative data on the subscale measuring Social Symptomatology (ES = .35, $p = .03$). The treatment group mean value was significantly lower than the normative sample on

Table 4.12

Means and Standard Deviations for the Holden Psychological Screening Inventory for Parents by Group at Intake with Effect Size (ES) and Comparisons with Normative Data and Between Groups

			Norms		Groups	
Treatment[1]/ Comparison[2]	Mean	SD	ES	*p*	ES	*p*
Psychiatric	48.83	11.34	.12	.46		
Symptomatology	49.39	11.91	.06	.75	.05	.84
Social Symptomatology	46.55↓	7.62	.35	.03*		
	50.50	8.66	.05	.79	.49	.05*
Depression	52.93	10.42	.29	.06		
	52.89	8.18	.29	.13	.00	.99
Total Psychopathology	50.25	8.57	.03	.87		
	51.46	8.88	.15	.44		

Note. $^*p$ significant at .05; *p*-norms is the 2-tailed statistical significance of the 1-sample *z*-test; *p*-groups is the 2-tailed statistical significance of the independent sample *t*-test by subscale; [1]n = 40; [2] n = 28; ↓ denotes significantly lower than the normative data at .05.

this subscale, indicating that parents in the treatment group were more likely than others to conform to authority, make decisions in a careful manner, and avoid arguments and confrontations (Holden, 1996). No other significant differences were reported for either group when compared to the normative data. A significant between-group difference and medium effect (ES = .49, *p* = .05) was reported on the Social Symptomatology subscale, as a result of the lower mean score ascribed to the treatment group.

All scores fell within the cutoff points established by Holden (1996) in order to identify invalid responses, with the exception of one individual in the treatment group with a total score *T* score of 71. This score was included, due to its proximity to the cutoff established by Holden, and consequently all scores were regarded as valid.

4.3.4 Summary of Parent Characteristics at Intake

Parents in both groups were compared on measures of individual and family functioning at intake. These domains were previously identified on the basis of their empirical association with delinquency and were targeted for improvement, over the course of treatment, as instrumental outcomes. Differences between each group and the normative data, and between the two groups, on measures of individual and family functioning are identified in Table 4.13.

Mean scores for parents in the treatment and comparison groups were significantly higher, when compared to the normative sample, on all of the subscales measuring family processes, and for overall family functioning. No between-group

Table 4.13

Summary of Significant Between-group Differences for Parents on Measures of Individual and Family Functioning at Intake with Normative Comparisons and Effect Size (ES)

Treatment/ Comparison	Norms		Groups	
	ES	p	ES	p
Family Assessment Measure				
Task Accomplishment	.81↑	.00*		
	1.21↑	.00*	--	--
Role Performance	1.05↑	.00*		
	1.38	.00*	--	--
Communication	1.03↑	.00*		
	1.12↑	.00*	--	--
Affective Expression	.74↑	.00*		
	.86↑	.00*	--	--
Involvement	.96↑	.00*		
	1.21↑	.00*	--	--
Control	.90↑	.00*		
	1.23↑	.00*	--	--
Values and Norms	.78↑	.00*		
	.99↑	.00*	--	--
Total	.90↑	.00*		
	1.11↑	.00*	--	--
Social Desirability	.64↓	.00*		
	1.14↓	.00*	--	--
Defensiveness	.66↓	.00*		
	1.00↓	.00*	--	--
Holden Psychological Screening Inventory				

Social Symptomatology	.35↓	.03*		
	--	--	.49	.05*

Note. *p significant at .05; *p*-norms is the 2-tailed statistical significance of the 1-sample *z*-test comparing the groups with a normative sample by subscale and total scale; *p*-groups is the 2-tailed statistical significance of the independent sample *t*-test by subscale; ↑ and ↑ indicate higher or lower mean, respectively, when compared to the normative data.

differences were reported. Group means for both groups were significantly lower than the normative sample for Social Desirability and Defensiveness. No between-group differences emerged on these two subscales. The treatment group mean for Social Symptomatology was significantly lower than the normative mean and also differed significantly from the comparative group mean. No between-group differences were reported for parents on any of the subscales of the Life Distress Inventory or on the Social Support Index at intake.

4.4 Summary

Adolescents and parents in the two groups were evaluated in terms of their equivalence at the beginning of treatment. Although it was not possible to randomly assign participants to the treatment and comparison situations at the beginning of treatment, owing primarily to clinical factors including the preferences of the parents or adolescents, participants in the treatment group tended to resemble their counterparts in the comparison group on important variables at intake, with only a few exceptions. The most notable between-group differences related to the age of the adolescents at the beginning of treatment, and the higher incidence of self-report, although not official, delinquency for the comparison group at intake. This has already been discussed and will be evaluated again when considering adolescent responses to treatment.

Adolescents in the treatment group averaged 8.5 convictions at intake while participants in the comparison group averaged 6.8 convictions at the start of treatment. Although the difference between the two groups in this study was not significant, the mean values reported are noticeably higher than mean values reported for participants in recent evaluations of other intensive, home-based programs (Borduin et al., 1995; Henggeler et al., 1992).

Adolescents in both groups reported significantly higher levels of concern on the seven subscales of the Family Assessment Measure that measure family processes, when compared to the normative sample, with the exception of the treatment group mean for Values and Norms. No significant between-group differences were reported. Adolescents in the treatment group were significantly more depressed at intake than the normative group, and than adolescents in the comparison group, while adolescents in the comparison group were significantly more likely to call upon others, and to utilize positive problem-solving strategies, than the normative sample, or adolescents in the treatment group.

Parents in both groups reported significantly higher levels of concern, when compared to the normative sample, on the subscales of the Family Assessment Measure that measure internal family processes. No between-group differences emerged. The mean for parents in the treatment group for Social Symptomatology, as measured on the Holden Psychological Screening Inventory, was significantly lower than the normative sample, and differed significantly from the higher mean value recorded for parents in the comparison group.

CHAPTER 5

RESULTS II: PRE- AND POST-TREATMENT COMPARISONS

5.1 Introduction

The results of the intervention are reported in this chapter. Adolescents in the treatment group were expected to engage in significantly fewer instances of antisocial and delinquent behaviours following treatment than adolescents in the comparison group. In addition, adolescents and parents in both groups were expected to report improvement on all measures of family functioning, as well as individual functioning and adjustment, over time. However, it was expected that adolescents and parents in the treatment group would report greater improvements over time, when compared to their counterparts in the comparison group, and that the magnitude of improvement, as measured by changes in the means, would be statistically significant.

5.1.1 Design of the Tables

Before analyzing recidivism and antisocial behaviours following treatment, adolescents in both groups were divided according to those who completed pre-treatment measures only, and those who completed pre-treatment measures and some or all of the post-treatment measures. This was done in order to determine whether individuals who remained in treatment to the end, and who completed the prescribed post-treatment measures, differed on pre-treatment measures, including criminal history and family functioning, from those who terminated prematurely, or were otherwise unwilling to complete post-treatment measures (see Table 5.1).

Recidivism was measured by the incidence of arrests or convictions in the first 6 months following treatment. Participants were classified according to their group assignment and by whether they had completed pre- and post- treatment measures, or pre-treatment measures only. Chi-square analyses were conducted to examine the relative distribution of these groups following treatment, and are reported in Table 5.2. A chi-square goodness-of-fit test was conducted to compare the results obtained in this study with a hypothesized situation in which participants had an equal chance of reoffending, or abstaining from criminal behaviour, following treatment (Lipsey, 1999). Those results are reported in Table 5.3.

Adolescents were asked to report their involvement in delinquent behaviours in the year preceding treatment, and in the time since treatment began. These results are reported in Table 5.4. Parent-ratings of antisocial behaviours prior to, and following, treatment are reported in Table 5.5. Adolescents or parents from the two groups that completed pre-treatment measures, and some or all of the post-treatment measures, are compared on measures of individual and family functioning in Tables 5.6 to 5.9.

Mean values for both groups at the beginning and end of treatment are reported in the columns on the left-hand side of Tables 5.4 to 5.9. Treatment values are reported directly above comparison group values. Standard deviations are reported to the right and adjacent to the corresponding means. A repeated measures design, with group as a between-participants factor, was used to evaluate time and group effects, as well as time by group interactions. These results are reported in the second to last column on the right hand side of the tables. Paired-samples t-tests were used to compare pre- and post-treatment means for both groups in order to determine the source of any significant group-time interactions that emerged. These results are reported along with effect sizes.

In the repeated measures analyses reported in Tables 5.4 to 5.9, p-values $\leq .05$ are designated with double superscript asterisks. In addition, a single superscript asterisk has been used to designate p-values $\leq .10$. This second level of significance was chosen to identify differences that may be clinically significant but that are not detected by the more stringent level of significance, possibly due to small sample sizes (Kazdin, 1998). Consequently p-values $\leq .10$ will be flagged for discussion, although the different levels of significance will be noted in the discussion. Finally, mean values that are significantly higher or lower than the normative means are designated with an upward or downward pointing arrow respectively, adjacent to the appropriate mean.

Participant ratings of the therapist are evaluated in Table 5.10. Specific pre- and post-treatment variables are listed for adolescents and parents in Tables 5.11 and 5.12, respectively, and are correlated with the incidence of offence in the first 6 months following treatment, using Pearson's point biserial correlation, in order to determine whether any of these variables predict, beyond chance, an adolescent's response to treatment in the first 6 months. Ninety-five percent confidence intervals are also given for the correlations reported in Tables 5.11 and 5.12.

5.2 Comparison of Adolescent Responses Following Treatment

Official criminal activity, including both charges and convictions, was tracked for the first 6 months following treatment. Adolescents were also asked to complete the Self-Report Delinquency Scale at the end of treatment, and parents were asked to evaluate adolescent behaviours using the Revised Behavior Problem Checklist. These were considered to be measures of ultimate outcome. In addition adolescents were evaluated on measures of family functioning and personal coping following treatment in order to evaluate change in instrumental outcomes. Finally, adolescents completed the Revised Helping Alliance Questionnaire at the end of treatment, in order to render their impressions of the intervention and their therapist.

5.2.1 Comparison of Adolescents at Intake According to Measures Completed

Sixty-nine adolescents participated in this study. Thirty-eight adolescents were enrolled in the treatment group and 31 were included in the comparison group. Twenty-three adolescents in the treatment group, or 61%, completed some or all of the post-treatment measures, compared to 15 adolescents, or 45%, in the comparison group. A two-by-two univariate analysis of selected pre-treatment variables was conducted prior to the analysis of treatment outcomes in order to determine whether adolescents in the treatment and comparison groups who completed the pre-treatment measures, as well as some or all of the post-treatment measures, differed from adolescents in the two groups who completed only pre-treatment measures. Mean scores for adolescents in the four groups were compared on measures of criminal activity, family functioning, and individual functioning at intake. These results are reported in Table 5.1.

Significant group effects were reported for the Psychotic Behavior subscale of the Revised Behavior Problem Checklist, the Depression subscale of the Holden Psychological Screening Inventory, and the Positive Appraisal and Problem Solving subscale of the Youth Coping Index. The group effects reported for Psychotic Behavior and Positive Appraisal and Problem Solving can be attributed to higher mean scores for the comparison group. Higher scores on the Psychotic Behavior subscale indicate greater levels of parental concern regarding symptoms in their adolescents. Individuals with elevations on this scale may suffer from psychotic symptoms including delusional thoughts and impaired reality testing. Higher scores on the Positive Appraisal and Problem Solving subscale suggest a greater willingness to seek the assistance of others and to engage in positive problem solving. The effect reported for Depression on the Holden Psychological Screening Inventory can be attributed to a higher mean score for the treatment group. Elevations on this subscale indicate greater levels of concern or symptomatology. No group effects were reported when individuals who completed only the pre-treatment measures were compared to those who completed the pre-treatment measures and some, or all, of the post-treatment measures. No measure-completion-by-group interactions emerged.

5.2.2 Official Arrest Data for Adolescents Following Treatment

Sixty-two participants were followed for a 6-month interval following the end of treatment. The treatment and comparison groups were each divided according

Table 5.1

Comparison of Group Mean Scores for Adolescents on Measures of Delinquency and Individual and Family Functioning at Pre-treatment by Group (Group) for Participants Who Completed Some or All Post-treatment Measures and Those Who Completed Pre-treatment Measures Only (Measure-completion)

	Measure-completion	Group	Interaction
Mean Number of Offences by Participant[1]	.14	.35	.19
Mean Severity Rating by Participant[1]	.29	.33	.15
Revised Behavior Problem Checklist[2]			
Conduct Disorder	.65	.06	.97
Socialized Aggression	.46	.09	.95
Attention Problems/Immaturity	.14	.81	.86
Anxiety-Withdrawal	.13	.25	.28
Psychotic Behavior	.09	.02*	.18
Motor Tension-Excess	.18	.63	.17
Family Assessment Measure[3]			
Task Accomplishment	.34	.96	.44
Role Performance	.19	.66	.97
Communication	.60	.77	.69
Affective Expression	.72	.42	.43

Involvement	.74	.24	.90
Control	.84	.40	.75
Values and Norms	.96	.27	.55
Total	.86	.57	.80
Holden Psychological Screening Inventory[4]			
Psychiatric Symptomatology	.39	.51	.41
Social Symptomatology	.08	.73	.78
Depression	.82	.05*	.51
Total Psychopathology	.26	.31	.46
Youth Coping Index[5]			
Spiritual and Personal Development	.27	.51	.75
Positive Appraisal and Problem Solving	.17	.03*	.70
Incendiary Communication	.57	.37	.19
Total Scale	.24	.33	.62

Note. *p significant at .05; [1]n = 69 (23, 15, 15, 16); [2]n = 56 (21, 11, 15, 9); [3]n = 64 (22, 15, 13, 14); [4]n = 67 (23, 15, 15, 14); [5]n = 66 (23, 15, 14, 14), bracketed numbers represent treatment group with pre-treatment and some or all post-treatment measures, comparison group with pre-treatment and some or all post-treatment measures, treatment group with pre-treatment measures only, and comparison group

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with pre-treatment measures only, respectively.

to those individuals who completed all pre-treatment measures, and some or all of the post-treatment measures, and those who completed pre-treatment measures only. This was done to determine whether those individuals who remained in treatment until it was formally concluded, and then demonstrated a willingness to participate in the evaluation of treatment, were less likely to engage in criminal activity following treatment, when compared to those who either withdrew from treatment prior to formal termination, or completed treatment as agreed but refused, or were unavailable, to complete the post-treatment measures.

Official charge and conviction data was tracked in order to determine involvement in delinquent activities. Although the inclusion of charges may inflate the extent of criminal activity, when compared to only convictions, charges were included because they were considered to be a more sensitive indicator of the persistence of behaviours that warranted the attention and involvement of the police and courts.

The incidence of reoffence for the first 6 months following treatment is reported in Table 5.2. A total of 36 participants from the treatment group were followed and 27 (75%) had not reoffended. Twenty-six participants from the comparison group were followed for at least 6 months following treatment and 20 (77%) had not reoffended in the 6 months following treatment. A chi-square analysis was conducted to determine whether the actual frequencies for all participants deviated significantly from expected frequencies based on the proportional distribution of all values. No significant chi-squares values were detected.

Table 5.2

Reoffence in First Six Months Following Treatment by Group for Those Who Completed Pre- and Post-test Measures and Those Who Completed Pre-test Measures Only and for Total Participants by Group With X^2 Values

Reoffence in First Six Months	Treatment Group	Comparison Group	X^2
All Participants (pre-tests only and pre- and post-tests completed)			
Yes	9	6	
No	27	20	$.02^1$
Pre-test and Post-test Measures Completed			
Yes	5	2	
No	17	11	$.01^2$
Only Pre-test Measures Completed			
Yes	4	4	
No	10	9	$.09^3$

Note. All X^2 values corrected using Yates correction for continuity given the presence of expected frequencies < 10 (Sprinthall, 2000); ${}^1X^2 = .02$, $df = 3$, $p > .05$; ${}^2X^2 = .01$, $df = 3$, $p > .05$; ${}^3X^2 = .09$, $df = 3$, $p > .05$.

Chi-square values in Table 5.2 were corrected using the Yates correction for continuity (Sprinthall, 2000), because of the low frequencies reported in cells measuring reoffence.

Of the 27 adolescents in the treatment group that had not reoffended in the first 6 months following treatment, 17 had completed both sets of measures and 10 had completed only the pre-treatment measures. These individuals accounted for 77% and 72% of their groups respectively. Among the 20 comparison group adolescents that had not reoffended over the same time period, 11 had completed both sets of measures and nine had completed only the pre-treatment measures. These individuals accounted for 85% and 69% of their groups respectively. Chi-square analyses comparing reoffence rates for adolescents in each of the two groups, according to the measures they had completed, yielded no significant results. A 4x2 chi-square analysis that included adolescents from both groups that had completed both sets of measures as well as adolescents from both groups that had completed only the pre-treatment measures was also conducted and failed to produce significant findings [$X^2(3, n = 62) = 1.03, p > .05$]. Consequently, no significant differences in reoffence were reported between adolescents when they were grouped according to their treatment status and by the number of measures they completed.

A chi-square goodness-of-fit test was conducted to compare the reoffence rates of all adolescents in the treatment and comparison groups to hypothesized reoffence rates that reflected an equal chance of offending and not offending following treatment (see Table 5.3). The hypothesized frequencies are provided in

Table 5.3

Chi Square Goodness-of-fit Test Using Observed and Expected Frequencies of Reoffence in First Six Months Following Treatment for All Participants by Group

Reoffence in First Six Months	Treatment Group	Comparison Group	X^2
All Participants (pre-tests only and pre- and post-tests completed)			
Yes	9 [18]	6 [13]	
No	27 [18]	20 [13]	16.54*

Note. *$p < .01$.

the square brackets immediately to the right of the actual frequencies reported in this study. It was assumed, for the purpose of this analysis, that equal chances of engaging in, or abstaining from, criminal behaviour following treatment would resemble the effects of poorly conceived treatment, or no treatment at all (Lipsey, 1999). As shown in Table 5.3, the actual number of adolescents who reoffended in the 6 months following treatment is lower than the hypothesized frequencies for both the treatment and comparison groups. Similarly, the actual number of adolescents in the two groups that did not reoffend in the 6 months following treatment is higher than the hypothesized frequencies in both cases. A significant chi-square value was reported in this instance ($p \leq .01$), indicating that the actual frequencies differed significantly from the hypothesized frequencies that predicted no effect from treatment.

5.2.3 Adolescent Self-Report Delinquency at Pre- and Post-treatment

Means and standard deviations for adolescent responses on the Self-Report Delinquency Scale (Elliott et al., 1983) are reported in Table 5.4. Adolescents were instructed to complete the scale at pre-treatment, with reference to the preceding year, and to compete the measure at post-treatment, with reference to the time since the beginning of treatment. Consequently the pre-treatment measures generally referenced a longer period of time, and the time-spans referenced by the post-treatment measure varied according to the length of treatment.

Significant time-group interactions ($p \leq .05$) were reported for Felony Theft and Index Offence. A reduction from pre-treatment to post-treatment by the

Table 5.4

Means and Standard Deviations at Pre- and Post-treatment for Self-reported Delinquency with Time (*t*) and Group (*g*) Effects and Time-by-Group (*tg*) Interactions, with Pre- and Post-treatment Comparisons (*p*) and Effect Size (ES) by Group

	Pre-treatment		Post-treatment		Repeated Measures ANOVA *p*-values			Pre- and Post- Analysis by Group *p*-values	
Treatment[1]/ Comparison[2]	Mean	SD	Mean	SD	*t*	*g*	*tg*	ES	*p*
Felony Arrest	3.30	1.34	3.25	.78				.06	.79
	3.50	1.08	3.30	.48	.43	.73	.64	.25	.44
Felony Theft	3.25	.64	3.15	.37				.16	.49
	5.80	2.82	3.80	2.20	.02**	.00**	.04**	.53	.13
Robbery	3.15	.67	3.00	.00				.23	.33
	3.90	1.27	3.30	.95	.05**	.03**	.23	.44	.19
Minor Theft	3.70	2.05	3.35	1.09				.15	.53
	5.20	2.15	3.50	.71	.03**	.08*	.14	.87	.02**
Minor Arrest	4.15	2.25	3.40	1.27				.35	.14
	5.80	2.40	4.10	1.37	.02**	.04**	.32	.58	.10*
Damage to Property	3.55	1.23	3.40	1.14				.16	.48
	4.00	1.49	3.70	1.89	.44	.41	.80	.13	.69
Hard Drugs	5.05	.22	6.70	6.72				.25	.29
	5.70	1.06	5.30	.67	.57	.73	.35	.37	.27
Marijuana	2.10	1.83	2.65	2.18				.32	.19
	3.40	1.43	3.40	2.50	.52	.13	.52	.00	1.00
Illegal Services	3.80	1.74	3.50	1.47				.39	.11
	6.50	4.22	4.90	3.21	.07*	.02**	.20	.37	.28
Index Offence	9.70	2.05	9.40	1.10				.22	.36
	13.20	4.21	10.40	3.41	.01**	.01**	.04**	.58	.10*

General Delinquency	24.75	9.03	26.45	13.50				.09	.69
	35.20	11.80	26.00	6.36	.27	.06*	.11	.72	.05**
Total Score	62.10	18.56	58.75	15.35				.27	.25
	82.40	23.97	64.50	15.11	.01**	.04**	.06*	.64	.08*

Note. $^{*}p$ significant at .10; $^{**}p$ significant at .05; *p*-groups is the 2-tailed significance of the paired-samples *t*-test by subscale; ^{1}n = 20; ^{2}n = 10.

comparison group for Felony Theft appears to be responsible for the interaction reported on that subscale (ES = .53, *p* =. 13). The interaction noted for Index Offence can be also attributed to a lower mean score for the comparison group following treatment (ES = .58, *p* = .10).

Significant time and group effects were identified for the Total Score (*p* = .01 and .04, respectively) and the time-group interaction was significant at .10. The comparison mean dropped further over time (ES = .64, *p* = .08) than the treatment mean (ES = .27, *p* = .25), and appears to account for the significant interaction noted above.

Significant time and group effects, but no interactions, were noted for Robbery and Minor Arrest. Although the mean scores for both the treatment and comparison groups declined over the course of treatment, a greater decrease was noted in both instances for the comparison group and the decrease in the comparison mean for Minor Arrest was significant at .10 (ES = .58, *p* = .10). A time effect significant at .05, and a group effect significant at .10, was reported for Minor Theft, although no significant interaction emerged. The comparison mean for Minor Theft dropped significantly over the course of treatment (ES = .87, *p* = .02) but no significant difference was reported for the treatment group. Significant time and group effects were reported for Illegal Services (*p* = .07 and .02, respectively) but no interaction was reported and no significant changes in mean scores were reported for either group over time. Finally, a significant group effect (*p* = .06), but no interaction, emerged for General Delinquency. The group effect appears to be a result of a significant decline in the comparison mean over time (ES = .72, $p = .05$).

Although involvement in criminal and antisocial activities increases during adolescence (Caspi & Moffitt, 1995; Moffitt, 1993) no significant increase in antisocial behaviours was reported for adolescents in the treatment group over the course of treatment, even though they were typically approaching their 16th and 17th birthdays, the peak of adolescent offending. Adolescents in the comparison group reported significant decreases for General Delinquency, Index Offences, Minor Arrests and Minor Thefts ($p \leq .10$), and for the Total Score (ES = .64 $p = .08$), even though they entered treatment at the peak of adolescent offending.

These findings must be interpreted cautiously however because all participants were asked to consider the year preceding treatment when they completed the pre-treatment measure, and the time since treatment began when they completed the post-treatment scale. Because most adolescents completed treatment in less than one year, the number of unofficial or undetected delinquent acts committed during treatment cannot be directly compared to the number that occurred in the year preceding treatment. A more accurate figure would be obtained if participants completed the scale, in every instance, one year after treatment commenced.

5.2.4 Parent Ratings of Adolescent Behaviours at Pre- and Post-treatment

Parent ratings of adolescent behaviour at pre- and post-treatment are reported in Table 5.5. No significant time-group interactions emerged at the .05 level of significance. The time-group interaction for Psychotic Behavior was significant at

Table 5.5

Parent Ratings of Adolescent Behaviour on the Revised Behavior Problem Checklist Following Treatment, with Time (*t*) and Group (*g*) Effects and Time-by-Group (*tg*) Interactions, with Pre- and Post-treatment Comparisons (p) and Effect Size (ES) by Group

	Pre-treatment		Post-treatment		Repeated Measures ANOVA *p*-values			Pre- and Post- Analysis by Group *p*-values	
Treatment^{1}/ Comparison^{2}	Mean	SD	Mean	SD	*t*	*g*	*tg*	ES	*p*
Conduct Disorder	51.30	5.69	47.13	9.51				.46	.04**
	56.09↑	5.74	50.36	7.59	.00**	.08*	.63	.78	.03**
Socialized Aggression	60.35↑	8.28	56.56↑	10.27				.40	.07*
	65.09↑	6.58	60.09↑	9.12	.01**	.15	.73	.52	.12
Attention Problems/ Immaturity	51.83	8.26	49.57	9.41				.24	.27
	51.18	10.23	46.64	9.73	.04**	.56	.47	.79	.03**
Anxiety/ Withdrawal	49.78	7.26	48.35	9.45				.17	.42
	49.18	6.13	45.55	5.82	.10*	.49	.46	.49	.14
Psychotic Behavior	48.08	5.66	48.35	6.44				.10	.63
	50.64	6.39	45.64	5.39	.03**	.75	.09*	.95	.01**
Motor Tension/ Excess	49.39	8.57	49.00	6.28				.05	.83
	46.82	6.82	43.18↓	6.40	.21	.06*	.31	.42	.20

Note. $^{*}p$ significant at .10; $^{**}p$ significant at .05; ↑ or ↓ denotes significantly higher or lower than normative data at .05 respectively; *p*-groups is the 2-tailed significance of the paired-samples *t*-test by subscale; ^{1}n = 23; ^{2}n = 11

.10 and a significant time effect was also reported (*p* = .03). A significant decline in the comparison mean over the course of treatment (ES = .95, *p* = .01) was also identified and accounts for the significant time effect as well as the time-group interaction.

Significant time or group effects were reported for Conduct Disorder, Socialized Aggression, Attention Problems/Immaturity, and Psychotic Behavior. The time effect for Conduct Disorder (*p* = .00) emerged as a result of a significant decline in the mean scores for both the treatment and comparison groups over the course of treatment (ES = .46, *p* = .04 and ES = .78, *p* = .03,respectively). A significant group effect (*p* = .08) was also noted for Conduct Disorder. The time effect for Socialized Aggression (*p* = .01) appears to be associated with a significant decrease in the treatment mean over the course of treatment (ES = .40, *p* = .07) while the time effect for Attention Problems/Immaturity (*p* = .04) is related to a large and significant decrease in the comparison group mean over time (ES = .79, *p* = .03). A significant time effect (*p* = .10) was reported for Anxiety/Withdrawal but neither group changed significantly over time, and a significant group effect (*p* = .06) was identified for Motor Tension/Excess, but neither group changed significantly over time.

Criminal and antisocial behaviours are identified on the Revised Behavior Problem Checklist primarily on the Conduct Disorder and Socialized Aggression subscales. Post-treatment results indicated that parents in the treatment and comparison groups reported significant reductions on both subscales following treatment. Parents of adolescents in both groups reported that their adolescents were significantly less likely to use aggression, intimidation, or hostility, or to engage in interpersonal expressions of anger, following treatment. Further, the post-treatment means for Conduct Disorder indicated that adolescents in the two groups could not be distinguished from the normative sample based on these behaviours, following treatment. However, significant differences between adolescents in the treatment and comparison groups, and the normative sample, did remain for Socialized Aggression, even though a reduction in mean values and significant time effects were reported. According to their parents, adolescents in both the treatment and control groups continued to associate with delinquent peers, abuse illicit drugs and alcohol, miss school without permission, and engage in criminal behaviours, at a rate that distinguished both groups, on average, from the normative sample.

5.2.5 Adolescent Pre- and Post-treatment Ratings of Family Functioning

Adolescent ratings of family functioning before and after treatment are reported in Table 5.6. A repeated measures analysis yielded a significant time-group interaction for Values and Norms ($p = .08$). This interaction appears to be the result of significantly higher levels of concern for adolescents in the treatment group on this subscale following treatment (ES = .54, $p = .02$). A significant time effect was identified for Role Performance ($p = .08$) but neither group reported significant changes over time. The treatment group mean increased significantly over time for the Total scale measuring overall family functioning (ES = .43, $p = .06$), indicating

Table 5.6

Adolescent Ratings of Family Adjustment Following Treatment by Group Using the Family Assessment Measure (General Scale), with Time (*t*) and Group (*g*) Effects and Time-by-Group (*tg*) Interactions, with Pre- and Post-treatment Comparisons (*p*) and Effect Size (ES) by Group

	Pre-treatment		Post-treatment		Repeated Measures ANOVA *p*-values			Pre- and Post-Analysis by Group *p*-values	
Treatment[1]/ Comparison[2]	Mean	SD	Mean	SD	*t*	*g*	*tg*	ES	*p*
Task Accomplishment	57.24↑	9.83	58.86↑	10.71				.13	.57
	59.20↑	10.71	59.73↑	12.85	.57	.66	.78	.06	.81
Role Performance	53.52	10.66	57.33↑	9.64				.32	.16
	54.67↑	8.34	56.93↑	11.00	.08*	.90	.66	.31	.25
Communication	55.05↑	10.63	58.67↑	10.76				.33	.15
	57.33↑	12.37	55.20↑	13.48	.68	.87	.12	.21	.43
Affective Expression	58.19↑	8.44	59.14↑	7.20				.11	.62
	53.60	11.49	54.40	12.24	.54	.12	.96	.01	.72
Involvement	55.05↑	13.76	58.38↑	11.07				.27	.23
	59.73↑	12.98	59.07↑	10.17	.51	.46	.33	.06	.83
Control	53.05	12.83	58.29↑	10.83				.32	.16
	56.93↑	11.68	55.33↑	12.18	.43	.89	.14	.22	.42
Values and Norms	49.14	10.67	56.19↑	13.23				.54	.02**
	54.53	11.45	53.60	11.04	.17	.67	.08*	.07	.78
Total	54.46↑	8.68	58.12↑	8.33				.43	.06*
	56.61↑	10.18	56.32↑	10.01	.20	.95	.14	.04	.87
Social Desirability	48.19	6.16	44.48↓	6.57				.44	.06*
	41.33↓	7.84	43.87↓	7.95				.35	.20

Defensiveness	51.14	13.47	46.52	9.88	.38	.10*
	41.73↓	11.36	43.07↓	10.14	.12	.66

Note. **p* significant at .10; ***p* significant at .05; ↑ or ↓ denotes significantly higher or lower than normative data at .05 respectively; *t* = effect by time; *g* = group effect; *tg* = time by group interaction; *p*-groups is the 2-tailed significance of the paired-samples *t*-test by subscale; ^{1}n = 21; ^{2}n = 15.

significantly higher levels of concern following treatment. No time-group interaction was noted. Mean scores for overall family functioning were virtually identical for the comparison group at the beginning and end of treatment. Finally, the treatment mean for both Social Desirability and Defensiveness dropped significantly over the course of treatment, but both values remained in the average range (ES = .44, $p = .06$ and ES = .38, $p = .10$, respectively). This may mean that adolescents in the treatment group were more willing to identify concerns regarding family functioning following treatment, although it should be noted that their pre-treatment scores were not considered to be invalid on the basis of their response style. All mean scores for Defensiveness and Social Desirability fell between 40 and 50 at follow-up. Thus it is unlikely that participants intentionally distorted their responses (Skinner et al., 1995).

The Total mean scores for both groups, and the mean scores on each of the seven subscales measuring family processes, were significantly higher than the normative data following treatment, with the exception of the Affective Expression and Values and Norms mean scores for the comparison group, although all mean values fell within the average range.

Interventions in the home-based program, and at the clinic, attempted to enhance problem-solving and communication skills, to increase involvement among family members, and to regulate and clarify the expression of emotions within the family. Consistent with these goals, it was anticipated that improvements would be reported over time on the Communication, Affective Expression, and Involvement subscales. As noted above, there was no significant decrease in the mean values for any of these subscales over the course of treatment, and all mean values remained significantly higher than the normative mean value, although they fell at the upper end of the average range. The failure to see the expected results on the Family Assessment Measure for adolescents following treatment may reflect the proximity of the original scores to the normative means. It may also be related to the fact that both interventions attempted to enhance parenting skills, including the ability to establish and enforce limits, and adolescent responses following treatment may reflect their concerns regarding the extension of parental control or discretion in the family.

5.2.6 Adolescent Pre- and Post-treatment Ratings of Coping Skills

Mean scores and standard deviations for adolescents in the treatment and comparison groups at the beginning and end of treatment for the Youth Coping Index are reported in Table 5.7. No significant time-group interactions emerged. A significant group effect was reported for Positive Appraisal and Problem Solving. A paired-samples *t*-test indicated that this effect was most likely attributable to a reduction in the group mean score for the treatment group at the end of treatment. Lower scores on this subscale indicate that respondents are less likely to utilize positive coping skills such as talking with others, maintaining friendships, and seeking compromise. It should be noted that the difference in mean scores for this subscale for the treatment group over the course of treatment is not statistically significant and only a small effect (ES = .25, $p = .27$) was reported. No other significant effects were reported for either group or time. Paired-sample *t*-tests yielded no significant differences by group from pre- to post-test.

Table 5.7

Adolescent Ratings of Coping Following Treatment Using the Youth Coping Index, with Time (*t*) and Group (*g*) Effects and Time-by-Group (*tg*) Interactions, with Pre- and Post-treatment Comparisons (*p*) and Effect Size (ES) by Group

	Pre-treatment		Post-treatment		Repeated Measures ANOVA *p*-values			Pre- and Post- Analysis by Group *p*-values	
Treatment[1]/ Comparison[2]	Mean	SD	Mean	SD	*t*	*g*	*tg*	ES	*p*
Spiritual/Personal	36.25	8.57	35.80	8.20				.10	.67
Development	35.13	5.29	35.93	7.12	.84	.84	.48	.14	.60
Positive Appraisal/	33.40	5.76	32.30	5.65				.25	.27
Problem-solving	37.67↑	4.69	37.20↑	6.14	.32	.01*	.69	.10	.71
Incendiary	24.15	3.39	23.70	3.80				.11	.64
Communication	23.40	4.50	24.27	5.13	.78	.94	.37	.20	.44
Total	93.80	12.56	91.80	12.76				.29	.21
	95.93	10.21	97.40	11.16	.84	.32	.21	.16	.54

Note. * *p* significant at .05; *p*-groups is the 2-tailed significance of the paired-samples *t*-test by subscale; [1]n = 20; [2]n = 15; ↑ denotes significantly higher than normative data at .05.

The comparison group mean score was significantly elevated for Positive Appraisal and Problem-Solving at the beginning of treatment, when compared to the normative sample, even after those participants who completed only the pre-treatment measures were removed, and it remained significantly higher than the normative mean following treatment. As noted in Chapter 4, elevations on this subscale indicate that individuals in the comparison group may be more likely to seek the assistance of others in order to cope, and to adopt an independent decision-making style (McCubbin et al., 1995). While participants in the comparison group maintained this apparent advantage over the course of treatment, it is not possible, given the wording of the individual items on the Youth Coping Index, to evaluate whether these adolescents were more likely to call upon prosocial peers and family members to avoid crime, or whether they exhibited the tendencies described above while participating in crime and antisocial behaviours with like-minded peers.

5.2.7 Summary of Adolescent Responses Following Treatment

Adolescents from the treatment and comparison groups who completed both pre- and post-treatment measures were compared to adolescents in both groups that completed only the pre-treatment measures, on measures of criminal behaviour and individual and family functioning at intake, to determine whether there were significant differences that might contribute to differential treatment outcomes. Significant treatment-versus-comparison group effects were noted for Psychotic Behavior, Depression, and Positive Appraisal and Problem Solving. The treatment mean was higher than the comparison mean for Depression, while the comparison means were higher than the treatment means on the other two subscales. No effects were noted when adolescents who completed pre-treatment measures as well as some or all of the post-treatment measures were compared to adolescents that completed only pre-treatment measures. Similarly, no interactions were noted (see Table 5.1).

Ultimate outcomes were measured by examining the incidence of reoffence in the first 6 months following treatment, as well ratings on the Self-Report Delinquency Scale and the Revised Behavior Problem Checklist. No significant differences were reported between the number of treatment and comparison participants that either reoffended or abstained from criminal behaviours in the first 6 months following treatment (see Table 5.2). A chi-square goodness-of-fit test indicated that adolescents in the treatment and comparison groups were significantly less likely to engage in criminal behaviours in the first 6 months following treatment, regardless of whether they completed all measures or only the pre-treatment measures, than a hypothesized distribution reflecting equal chances of reoffence or abstinence (see Table 5.3).

Significant time and group effects were noted on the Self-Report Delinquency Scale for Felony Theft, Robbery, Minor Theft, Minor Arrests, Illegal Services, Index Offences and the Total Score (see Table 5.4). Group effects only were reported for Illegal Offences. A time-group interaction was reported for Felony Theft, Index Offences, and Total Score. These effects appear to be a result of significant reductions in the comparison mean scores over the course of treatment, with the exception of Felony Theft. In addition, comparison means dropped significantly over the course of treatment on the subscales measuring Minor Theft and Minor Arrest, and for Total Score.

A significant time-group interaction was identified on the Psychotic Behavior subscale of the Revised Behavior Problem Checklist. A significant time effect was also reported on this subscale with a significant reduction in the comparison mean over the course of treatment. However it should be noted that neither the treatment nor comparison group differed significantly from the normative sample on this subscale before, or following, treatment. No other interactions were detected.

Significant time effects were reported on the Revised Behavior Problem Checklist for Conduct Disorder, Socialized Aggression, Attention Problems/Immaturity, and Anxiety/Withdrawal (see Table 5.5). The significant time effects reported for Conduct Disorder can be attributed to significant reductions in mean scores for the treatment and comparison groups over the course of treatment. Both groups resembled the normative sample on this subscale following treatment. The treatment mean on the Socialized Aggression subscale dropped significantly over the course of treatment, however, both groups remained significantly higher than the normative sample following treatment. The time effects for Attention Problems/Immaturity can also be accounted for by a significant decrease in the comparison mean over time. Significant group effects were reported for Conduct Disorder and Motor Tension/Excess.

Instrumental outcomes were measured using the Family Assessment Measure and the Youth Coping Index. A significant interaction was reported on the Values and Norms subscale of the Family Assessment Measure. This interaction can be explained by an increase in the treatment mean over the course of treatment. A significant time effect emerged for Role Performance and a significant increase in the treatment mean for the Total scale was identified. The treatment means for Social Desirability and Defensiveness also declined significantly over the course of treatment, perhaps reflecting a greater level of disclosure regarding family problems and concerns (see Table 5.6). All mean scores fell within the average range at the beginning of treatment and remained there following treatment, although most scores were near the high-end of average after treatment was completed.

A significant group effect was reported on the Positive Appraisal and Problem-Solving subscale of the Youth Coping Index at the post-treatment interval (see Table 5.7). The comparison mean on this subscale was significantly elevated at pre- and post-intervals, indicating a greater willingness to call on others for assistance and to adopt effective or collaborative problem-solving strategies.

5.3 Comparison of Parent Responses Following Treatment

Parents of adolescents in the treatment and comparison groups were asked to evaluate family functioning and subjective distress following treatment. Parents in both groups were also asked to evaluate adolescent behaviours following treatment. These results were discussed in the preceding section. Pre-treatment data on social support was collected for both groups but only the parents with adolescents in the treatment group were asked to evaluate perceived levels of social support following treatment. The treatment intervention attempted to identify and bolster appropriate social supports for parents and families so post-treatment data was necessary to determine whether parents perceived greater levels of social support following treatment. Social network interventions were not previously emphasized in the treatment provided to the comparison group so pre-treatment data only was collected, in order to provide a comparison of both groups at the beginning of treatment.

5.3.1 Parent Pre- and Post-treatment Ratings of Family Functioning

Parent ratings of family functioning at the beginning and end of treatment are reported in Table 5.8. No significant time-group interactions were reported. Time effects were reported for Task Accomplishment, Communication, Control, and Total score. The time effect reported for Task Accomplishment (*p* = .02) is associated with a significant decrease in the comparison mean over time (ES = .50, *p* = .07). The time effect identified for Communication (*p* = .07) can be explained by a decrease in the treatment mean over time (ES = .47, *p* = .04). A significant decrease in the comparison mean from pre- to post-treatment (ES = .62, *p* = .03) appears to account for the time effect identified for Control (*p* = .02). A time effect was also reported for the Total score but no significant changes to the comparison or treatment means were noted. Finally, the treatment mean for Defensiveness increased significantly over time (ES = .44, *p* = .06) but fell in the lower half of the average range at pre- and post-intervals, indicating that the participants most likely did not attempt to present the family in an especially negative fashion (Skinner et al., 1995).

Family-level interventions with the parents in both groups were designed to bolster the executive capacity of the family through enhancing communication and

Table 5.8

Parent Ratings of Family Adjustment Following Treatment by Group Using the Family Assessment Measure (General Scale), with Time (*t*) and Group (*g*) Effects and Time-by-Group (*tg*) Interactions, with Pre- and Post-treatment Comparisons and Effect Size (ES) by Group

	Pre-treatment		Post-treatment		Repeated Measures ANOVA *p*-values			Pre- and Post-Analysis by Group *p*-values	
Treatment[1]/ Comparison[2]	Mean	SD	Mean	SD	*t*	*g*	*tg*	ES	*p*
Task Accomplishment	57.80↑	8.05	54.29↑	8.72				.33	.14
	61.87↑	11.48	55.47↑	9.24	.02**	.30	.47	.50	.07*
Role Performance	61.81↑	13.30	58.48↑	8.69				.26	.26
	61.47↑	7.95	59.60↑	8.72	.20	.89	.72	.19	.47
Communication	61.71↑	9.21	56.86↑	10.31				.47	.04**
	58.13↑	9.33	56.93↑	7.81	.07*	.52	.27	.14	.61
Affective Expression	57.43↑	9.21	57.14↑	9.52				.03	.89
	56.00↑	5.76	54.93	9.16	.65	.48	.80	.13	.63
Involvement	58.76↑	8.16	57.90↑	9.62				.09	.67
	61.60↑	11.42	57.87↑	8.57	.16	.61	.38	.38	.17
Control	59.71↑	8.18	57.52↑	11.17				.24	.28
	60.27↑	10.47	55.20↑	7.74	.02**	.76	.34	.62	.03**
Values and Norms	57.23↑	7.35	56.19↑	6.48				.20	.36
	57.87↑	9.02	57.87↑	7.27	.64	.63	.64	.00	1.00
Total	59.25↑	6.44	56.91↑	7.56				.33	.15
	59.03↑	7.78	56.84↑	6.55	.07*	.94	.95	.30	.26
Social Desirability	43.52↓	5.25	45.62↓	6.41				.31	.17
	40.00↓	6.05	42.00↓	4.78				.28	.29

Defensiveness	42.10↓	9.54	46.29↓	9.86			.44	.06*
	40.80↓	6.41	43.60↓	3.48			.41	.13

Note. $^{*}p$ significant at .10; $^{**}p$ significant at .05; ↑ or ↓ denotes significantly higher or lower than normative data at .05 respectively; t = time effect; g = group effect; tg = time by group interaction; p-groups is the 2-tailed significance of the paired-samples t-test by subscale; ^{1}n = 21; ^{2}n = 15.

problem-solving, and strengthening parenting skills. It was expected that parents would report improvements on the Task Accomplishment, Communication, and Control subscales. As noted above, a significant time effect was reported for Task Accomplishment, and a significant reduction in comparison means was identified over time. A significant time effect was reported for Communication, and the treatment group mean following treatment was significantly lower than the pre-treatment mean. A significant time effect was also reported for Control, arising from a significant reduction in the treatment group mean.

All mean values fell within the average range on the seven subscales measuring family processes, and overall family functioning, for both groups following treatment. However, when compared to the normative sample, group means for both groups remained significantly higher at the end of treatment for overall family functioning, and on the seven subscales measuring family processes, with the exception of the comparison group mean for Affective Expression.

5.3.2 Parent Ratings of Life Distress and Social Support Following Treatment

Parent ratings of perceived distress at the beginning and end of treatment are reported in Table 5.9. Parents in the treatment group were also asked to evaluate social support following treatment and these results are included in the table. A significant time effect, and a time-group interaction, was reported on the Life Distress Inventory (Thomas et al., 1993) for the subscale measuring Career Concerns. No other effects were reported from the repeated measures analysis. An analysis of pre- and post-treatment mean scores by group indicated that the time effect and interaction

Table 5.9

Parent Ratings of Distress and Social Support by Group Following Treatment with Time (*t*) and Group (*g*) Effects and Time-by-Group (*tg*) Interactions, with Pre- and Post-treatment Comparisons (*p*) and Effects Size (ES) by Group

	Pre-treatment		Post-treatment		Repeated Measures ANOVA *p*-values			Pre- and Post-Analysis by Group *p*-values	
Treatment[1]/ Comparison[2]	Mean	SD	Mean	SD	*t*	*g*	*tg*	ES	*p*
Life Distress Inventory									
Marital Concerns	9.18	5.49	8.14	3.82				.16	.48
	8.43	3.80	8.76	4.51	.74	.96	.51	.07	.80
Career Concerns	8.68	3.24	8.59	3.69				.03	.90
	6.36	2.53	8.93	2.59	.03*	.30	.02*	.97	.00*
Outside Activities	3.95	1.68	3.86	2.44				.04	.85
	4.29	2.55	4.36	2.41	.98	.53	.84	.03	.92
Self and Family	16.05	4.58	13.86	5.26				.34	.13
	15.36	4.05	14.50	4.94	.15	.98	.52	.17	.55
Life Satisfaction/ Optimism	5.82	2.48	5.09	2.29				.23	.30
	6.00	1.71	6.07	1.64	.51	.29	.42	.03	.90
Total	43.68	14.01	39.36	13.02				.25	.26
	40.41	9.71	42.64	10.77	.70	1.00	.24	.17	.54
Social Support Index									
SSI[3]	45.06	10.67	44.65	8.46				.04	.87

Note. $^{*}p$ significant at .05; t = time effect; g = group effect; tg = time by group interaction; p-groups is the 2-tailed significance of the paired-samples t-test by subscale; ^{1}n = 22; ^{2}n = 14; ^{3}n = 17, only parents in treatment group included.

noted for Career Concerns above, emerged as a result of a significant increase in the mean score reported by the comparison group over time. A large and significant effect (ES = .97, *p* = .00) was reported on this subscale. Higher scores on this inventory reflect greater levels of distress. Career Concerns relate to employment, education, and the management of time.

Changes in social support were evaluated for parents in the treatment group over time using the Social Support Index (McCubbin et al, 1982). One total score is calculated and higher scores reflect higher levels of confidence in the availability and effectiveness of social supports. Mean scores remained virtually unchanged over time (ES = .04, *p* = .87), indicating that the parents in the treatment group did not report greater confidence in their ability to access appropriate social supports as a result of the intervention.

5.3.3 Summary of Parent Responses Following Treatment

The Family Assessment Measure, Life Distress Inventory, and Social Support Index were used to measure instrumental outcomes for parents in the treatment and comparison groups. No time-group interactions were reported on the subscales of the Family Assessment Measures. Significant time effects were reported for Task Accomplishment, Communication, and Control. These can be attributed to significant decreases in the comparison mean scores for Task Accomplishment and Control, and a significant decrease in the treatment mean for Communication over time. Improvements in family functioning were expected in Task Accomplishment, Communication, and Control, as a result of therapeutic attempts to bolster the executive subsystem. A time effect was reported for the Total score and a significant decrease over time was reported for the treatment mean on the Defensiveness subscale. All mean scores on the seven subscales measuring family processes remained significantly higher than the normative mean following treatment (see Table 5.8).

A significant time effect was reported on the subscale measuring Career Concerns on the Life Distress Inventory (see Table 5.9). A significant time-group interaction was also noted on this subscale and can be attributed to an increase in the mean for the comparison group. No other interactions were reported and no other time or group effects emerged. Parents in the treatment group reported no significant change in their perception of available and appropriate social supports, as measured on the Social Support Index, following treatment.

5.4 Parent and Adolescent Ratings of Therapist Characteristics

Parents and adolescents were asked to evaluate therapist characteristics following treatment using the Revised Helping Alliance Questionnaire (HAq-II; Luborsky et al., 1996). Positive and negative dimensions of the therapeutic relationship, as well as the client's perception of motivation, are evaluated on the Revised Helping Alliance Questionnaire. Means and standard deviations for the three subscales are reported in Table 5.10. Independent sample *t*-tests were performed to evaluate significant differences between adolescents in both groups, and parents in the two groups, at the end of treatment. No significant differences were noted between the treatment and

Table 5.10

Parent and Adolescent Ratings of Therapist Characteristics Following Treatment Using the Revised Helping Alliance Questionnaire

			Groups	
Treatment/ Comparison	Mean	SD	ES	*p*
Adolescents[1]				
Positive Alliance	57.67	12.53		
	59.61	8.28	.17	.62
Negative Alliance	11.48	3.96		
	12.23	3.70	.19	.57
Motivation	4.48	1.33		
	4.69	.85	.18	.62
Parents[2]				
Positive Alliance	70.95	5.94		
	68.14	6.16	.47	.18
Negative Alliance	9.45	4.80		
	7.92	3.27	.36	.30
Motivation	5.59	.50		
	5.64	.50	.10	.77

Note. **p*-groups is the 2-tailed statistical significance of the independent sample *t*-test; [1]treatment n = 21, comparison n = 13; [2] treatment n = 22, comparison n= 14.

comparison groups for either the adolescents or parents on any of the subscales, and generally small effect sizes were identified.

5.5 Selected Pre- and Post-treatment Variables and 6-month Recidivism

The incidence of reoffence in the first 6 months following treatment was correlated with selected variables for adolescents and parents at intake, and following treatment, to determine whether those variables predicted response to treatment as measured by reoffence in the specified time period. Correlations for adolescents were evaluated according to group membership and for all adolescents. They are reported in Table 5.11 below, along with .95 confidence intervals for each of the correlations. No significant correlations between the incidence of reoffence and the selected variables were reported when all adolescents were considered without reference to their treatment or comparison group status at either pre- or post-treatment intervals.

A significant correlation between Incendiary Communication and Tension Management on the Youth Coping Index and reoffence ($r = .39$, .95 CI = .07 to .64, $p \leq .05$) was noted for adolescents in the treatment group at the beginning of treatment, indicating that elevated scores on this subscale were associated with a higher likelihood of not offending. These findings appear to be counterintuitive because elevations on this subscale indicate that individuals may be more likely to blame others, and to yell and scream when faced with stress. However, individual scores on this subscale can also be elevated if respondents indicate that they resolve tension by complaining to their friends or convincing themselves that specific situations are not serious or significant. Adolescents may resort to these strategies in order to draw

Table 5.11

Point Biserial Correlations (*r*) Between Selected Pre- and Post-treatment Variables and 6-month Reoffence for Adolescents by Group and for All Participants with Numbers in Brackets and 95 Percent Confidence Intervals

	Treatment Group		Comparison Group		All Participants	
Variable	*r*	CI	*r*	CI	*r*	CI
Pre-treatment variables						
Age at Intake	-.18 (36)	-.48 to .16	-.06 (26)	-.44 to .34	-.11 (62)	-.35 to .14
Age at First Conviction	.24 (36)	-.10 to .53	.03 (26)	-.36 to .41	.13 (62)	-.12 to .37
Total Number of all Convictions	.01 (36)	-.32 to .34	.19 (26)	-.21 to .54	.07 (62)	-.18 to .31
Severity Rating of all Convictions	-.01 (36)	-.34 to .32	.15 (26)	-.25 to .51	.03 (62)	-.22 to .23
Receptive Vocabulary	.38 (18)	-.11 to .72	-.26 (12)	-.73 to .37	.21 (30)	-.16 to .53
Holden Psychological Screening Inventory						
Psychiatric Symptomatology	.13 (36)	-.21 to .44	-.29 (24)	-.62 to .13	-.04 (60)	-.29 to .22
Social Symptomatology	.03 (36)	-.30 to .36	.03 (24)	-.38 to .43	.03 (60)	-.23 to .28
Depression	.06 (36)	-.27 to .38	-.07 (24)	-.46 to .34	.01 (60)	-.24 to .26
Family Assessment Measure						
Task Accomplishment	.21 (33)	-.14 to .52	.04 (25)	-.36 to .43	.15 (58)	-.11 to .39

Role Performance	-.09 (33)	-.42 to .26	.12 (25)	-.29 to .49	-.01 (58)	-.25 to .27
Communication	.08 (33)	-.27 to .41	-.08 (25)	-.46 to .33	.03 (58)	-.23 to .29
Affective Expression	-.01 (33)	-.35 to .33	.14 (25)	-.27 to .51	.05 (58)	-.21 to .30
Involvement	.08 (33)	-.27 to .41	.34 (25)	-.06 to .65	.19 (58)	-.07 to .43
Control	.08 (33)	-.27 to .41	.19 (25)	-.22 to .54	.13 (58)	-.13 to .38
Values and Norms	.09 (33)	-.26 to .42	.19 (25)	-.22 to .54	.14 (58)	-.12 to .38
Youth Coping Index						
Spiritual/Personal Development	-.27 (35)	-.55 to -.07	.18 (24)	-.24 to .54	-.12 (59)	-.36 to .14
Positive Appraisal/ Problem Solving	-.21 (35)	-.51 to .13	.23 (24)	-.19 to .58	-.03 (59)	-.28 to .23
Incendiary Communication	.39* (35)	.07 to .64	-.05 (24)	-.44 to .36	.21 (59)	-.05 to .44
Post-treatment variables						
Revised Helping Alliance Questionnaire						
Positive Alliance	-.27 (20)	-.64 to .20	.04 (11)	-.57 to .62	-.20 (31)	-.52 to .17
Negative Alliance	-.35 (20)	-.69 to .11	.59 (11)	-.02 to .88	-.09 (31)	-.43 to .27
Motivation	-.28 (20)	-.64 to .19	-.27 (11)	-.75 to .39	-.28 (31)	-.58 to .08
Family Assessment Measure						
Task Accomplishment	.09 (21)	-.36 to .50	.30 (13)	-.30 to .73	.17 (34)	-.18 to .48

Role Performance	-.38 (21)	-.70 to .06	.67** (13)	.19 to .89	-.02 (34)	-.36 to .32
Communication	.20 (21)	-.25 to .58	.04 (13)	-.52 to .58	.13 (34)	-.22 to .45
Affective Expression	.33 (21)	-.12 to .67	.24 (13)	-.36 to .70	.27 (34)	-.08 to .56
Involvement	.27 (21)	-.18 to .63	-.07 (13)	-.60 to .50	.18 (34)	-.17 to .49
Control	-.16 (21)	-.55 to .29	.16 (13)	-.43 to .65	-.05 (34)	-.38 to .29
Values and Norms	.20 (21)	-.25 to .58	-.20 (13)	-.68 to .39	.08 (34)	-.27 to .41
Youth Coping Index						
Spiritual/Personal Development	-.10 (19)	-.53 to .37	.41 (13)	-.18 to .78	.08 (32)	-.28 to .42
Positive Appraisal/ Problem Solving	-.25 (19)	-.63 to .23	.10 (13)	-.48 to .62	-.07 (32)	-.41 to .29
Incendiary Communication	-.27 (19)	-.64 to .21	.08 (13)	-.49 to .60	-.10 (32)	-.43 to .26

Note. $^{*}p$ significant at .05; $^{**}p$ significant at .01.

support from their peers, or when faced with situations that they have little actual control over, so elevations on this subscale may not always reflect inappropriate coping strategies.

A significant correlation was also detected between Role Performance on the Family Assessment Measure following treatment and the incidence of reoffence within 6 months for adolescents in the comparison group ($r = .67$, .95 CI = .19 to .89, $p \leq .01$). The direction of the correlation indicates that lower scores on this subscale were associated with reoffence in the 6 months following treatment for adolescents in the comparison group. This finding is also counterintuitive because lower scores reflect fewer concerns regarding the allocation of roles and responsibilities in the family and it is generally assumed that resolution of these issues would be associated with a reduction in the likelihood of reoffence.

Correlations between specific pre- and post-treatment variables for parents, and the incidence of adolescent offending in the first 6 months following treatment, were also examined and are reported in Table 5.12, along with .95 confidence intervals for each correlation. Parent ratings were also evaluated according to group membership, and for all parents without reference to their group affiliation. No significant correlations were reported when pre- and post-treatment variables were examined for parents, without reference to group assignment, and compared to the incidence of adolescent offence in the first 6 months following treatment.

Significant correlations were detected for the comparison group parents when the Psychotic Behavior subscale of the Revised Behavior Problem Checklist, and the

Table 5.12

Point Biserial Correlations (*r*) Between Selected Pre- and Post-treatment Variables for Parents and 6-month Reoffence for Adolescents by Group and for All Participants with Numbers in Brackets and 95 Percent Confidence Intervals

	Treatment Group		Comparison Group		All Participants	
Variable	*r*	CI	*r*	CI	*r*	CI
Pre-treatment Variables						
Holden Psychological Screening Inventory						
Psychiatric Symptomatology	.15 (26)	-.25 to .51	.11 (17)	-.39 to .56	.13 (43)	-.18 to .41
Social Symptomatology	.02 (26)	-.37 to .40	.05 (17)	-.44 to .52	.06 (43)	-.24 to .35
Depression	.08 (26)	-.32 to .45	-.08 (17)	-.54 to .42	.02 (43)	-.28 to .32
Family Assessment Measure						
Task Accomplishment	.07 (29)	-.30 to .43	.19 (18)	-.30 to .60	.12 (47)	-.17 to .39
Role Performance	.20 (29)	-.18 to .53	.21 (18)	-.28 to .61	.20 (47)	-.09 to .46
Communication	.11 (29)	-.27 to .46	-.02 (18)	-.48 to .45	.06 (47)	-.23 to .34
Affective Expression	-.12 (29)	-.47 to .26	-.07 (18)	-.52 to .41	-.10 (47)	-.38 to .19
Involvement	.00 (29)	-.37 to .37	-.14 (18)	-.60 to .35	-.06 (47)	-.34 to .23
Control	.04 (29)	-.33 to .40	.02 (18)	-.45 to .48	.03 (47)	-.26 to .31

Values and Norms	-.04 (29)	-.40 to .33	.14 (18)	-.35 to .57	.03 (47)	-.26 to .31
Revised Behavior Problem Checklist						
Conduct Disorder	.19 (34)	-.16 to .50	-.20 (17)	-.62 to .31	.03 (51)	-.25 to .30
Socialized Aggression	-.03 (34)	-.36 to .31	-.39 (17)	-.73 to .11	-.17 (51)	-.43 to .11
Attention Problems	.04 (34)	-.30 to .37	-.46 (17)	-.77 to .03	-.15 (51)	-.41 to .13
Anxiety/ Withdrawal	-.01 (34)	-.35 to .33	-.29 (17)	-.68 to .22	-.11 (51)	-.37 to .17
Psychotic Behavior	.12 (34)	-.23 to .44	$-.68^{**}$ (17)	-.87 to -.30	-.22 (51)	-.47 to .06
Motoric Excesses	.21 (34)	-.14 to .51	-.48 (17)	-.78 to .00	-.01 (51)	-.28 to .27
Social Support Index						
	.15 (26)	-.25 to .51	$-.70^{*}$ (9)	-.93 to -.06	-.01 (35)	-.34 to .32
Life Distress Inventory						
Marital Concerns	.12 (30)	-.25 to .46	.18 (14)	-.39 to .65	.14 (44)	-.16 to .42
Career Concerns	-.20 (30)	-.52 to .17	.09 (14)	-.46 to .59	-.14 (44)	-.42 to .16
Outside Activities	.02 (30)	-.34 to .38	.15 (14)	-.41 to .63	.07 (44)	-.23 to .36
Self and Family	.23 (30)	-.14 to .55	.19 (14)	-.38 to .65	.22 (44)	-.08 to .48
Life Satisfaction/ Optimism	.12 (30)	-.25 to .46	.04 (14)	-.50 to .56	.11 (44)	-.19 to .39

Post-treatment variables						
Revised Helping Alliance Questionnaire						
Positive Alliance	-.16 (18)	-.58 to .33	-.46 (10)	-.84 to .24	-.27 (28)	-.58 to .11
Negative Alliance	-.37 (18)	-.71 to .12	-.40 (10)	-.82 to .31	-.13 (28)	-.48 to .26
Motivation	.20 (18)	-.29 to .61	-.25 (10)	-.76 to .45	.04 (28)	-.34 to .41
Family Assessment Measure						
Task Accomplishment	.20 (19)	-.28 to .60	-.09 (11)	-.65 to .54	.09 (30)	-.28 to .44
Role Performance	.22 (19)	-.27 to .61	.38 (11)	-.28 to .80	.27 (30)	-.10 to .57
Communication	.07 (19)	-.40 to .51	.47 (11)	-.18 to .83	.16 (30)	-.21 to .49
Affective Expression	-.04 (19)	-.49 to .42	.45 (11)	-.21 to .83	.13 (30)	-.24 to .47
Involvement	-.14 (19)	-.59 to .34	.31 (11)	-.36 to .77	-.03 (30)	-.39 to .33
Control	-.02 (19)	-.47 to .44	.35 (11)	-.32 to .79	.05 (30)	-.32 to .40
Values and Norms	-.02 (19)	-.47 to .44	.41 (11)	-.25 to .81	.14 (30)	-.23 to .48
Revised Behavior Problem Checklist						
Conduct Disorder	.12 (21)	-.33 to .52	.44 (11)	-.22 to .82	.22 (32)	-.14 to .53
Socialized Aggression	.07 (21)	-.47 to .49	.02 (11)	-.59 to .61	.06 (32)	-.29 to .40
Attention Problems	.30 (21)	-.15 to .65	-.04 (11)	-.62 to .57	.17 (32)	-.19 to .49

Anxiety/ Withdrawal	.08 (21)	-.36 to .49	.40 (11)	-.26 to .81	-.04 (32)	-.38 to .31
Psychotic Behavior	.27 (21)	-.18 to .63	-.32 (11)	-.77 to .35	.12 (32)	-.24 to .45
Motoric Excesses	.12 (21)	-.33 to .52	.12 (11)	-.52 to .67	.09 (32)	-.27 to .43
Social Support Index						
	-.33 (19)	-.68 to .15				
Life Distress Inventory						
Marital Concerns	.27 (18)	-.23 to .65	.14 (11)	-.50 to .68	.21 (29)	-.17 to .53
Career Concerns	.03 (18)	-.44 to .49	.15 (11)	-.49 to .69	.05 (29)	-.32 to .41
Outside Activities	-.05 (18)	-.51 to .43	.33 (11)	-.34 to .78	.07 (29)	-.30 to .43
Self and Family	.38 (18)	-.11 to .72	-.01 (11)	-.61 to .59	.25 (29)	-.13 to .56
Life Satisfaction/ Optimism	.00 (18)	-.47 to .47	-.06 (11)	-.64 to .56	-.01 (29)	-.38 to .36

Note. $^{*}p$ significant at .05; $^{**}p$ significant at .01.

Social Support Index at pre-treatment, were correlated with adolescent reoffence in the first 6 months following treatment ($r = -.68$, .95 CI = -.87 to -.30; $p \leq .01$; $r = -.70$, .95 CI = -.93 to -.06, $p \leq .05$, respectively). In the first instance, these results indicate that adolescents in the comparison group were less likely to reoffend following treatment if their parents rated them lower for psychotic behaviours at the start of treatment. In the second instance, adolescents in the comparison group were less likely to reoffend if their parents reported lower levels of social support. These latter findings are contrary to suggestions that greater levels of social support contribute to better outcomes, however, they are based on a small sample ($n = 9$) and similar results do not emerge when the treatment and comparison groups are considered together ($n = 35$).

5.6 Summary

Adolescents in both groups were expected to show a decrease in official delinquency, and adolescents and parent in both groups were expected to report improvement on measures of family and individual functioning following treatment. However, it was expected that participants in the treatment group would demonstrate significantly better results than participants in the comparison group in all three areas of measurement.

Ultimate and instrumental outcomes were defined for this dissertation. Recidivism was considered to be an ultimate outcome because it measures the incidence of the target behaviour following treatment. Self-report delinquency and parent reports of conduct problems and aggression were also identified as measure of ultimate outcomes because they reflect the persistence of target behaviours that may or may not result in charges or convictions. Changes in individual and family functioning were regarded as instrumental outcomes because it was assumed that improvements in these areas would lead to a reduction in criminal behaviour.

Adolescents in both groups were followed for 6-month intervals following treatment. Thirty-six adolescents from the treatment group were followed and 27 did not reoffend in the 6 months following treatment. Twenty-six adolescents in the comparison group were followed for similar lengths of time and 20 did not reoffend. No significant differences were detected when the two groups were compared to one another with reference to the numbers of adolescents that did not reoffend, and the numbers that did. A significant difference was detected when the actual frequencies for the two groups reported above were compared to hypothesized frequencies that reflected equal chances of offending and not reoffending following treatment. These findings suggest that, for both groups, treatment significantly reduced the incidence of reoffence beyond the reduction that might be expected through chance alone.

Significant time-group interactions were reported for the Felony Theft and Index Offence categories of the Self Report Delinquency Scale, as well as the Total Score. These effects can be attributed, in the latter two cases, to significant reductions in comparison mean scores over time.

Parents from both groups also reported that their adolescents were less likely to engage in the behaviours measured on the Conduct Disorder and Socialized Aggression subscales of the Revised Behavior Problem Checklist following treatment. These scales most closely measure criminal and antisocial behaviours. Although adolescents could not be distinguished from the normative sample on Conduct Disorder following treatment, they could be differentiated based upon the behaviours measured on the Socialized Aggression subscale. No significant time-group interactions were reported on either of these subscales. A significant interaction was identified for Psychotic Behavior, as a result of a significant reduction in the comparison mean over time.

Individual and family functioning after treatment was evaluated for participants that completed both the pre- and post-treatment measures. No significant improvements were identified for adolescents in either group following treatment, with respect to family functioning, although all mean scores fell within the average range as defined by Skinner et al. (1995). One significant time-group interaction was identified for the Values and Norms Subscales as a result of a significant increase in the treatment means, indicating greater levels of concern, following treatment.

Parents in both groups tended to report fewer concerns following treatment, as measured on the Family Assessment Measure, with significant improvements on a number of subscales closely associated with therapeutic attempts to increase parenting effectiveness. All mean scores for parents fell within the average range following treatment, but not before. No significant time-group interactions were reported for parents on the Family Assessment Measure following treatment. It was hypothesized that an increase in parental skills may have contributed to the greater levels of concern expressed by the adolescents following treatment.

No significant time-group interactions emerged for adolescents on a measure of coping and, with one exception indicating greater levels of career concerns among parents in the comparison group, no significant time-group interactions emerged when parents in the treatment and comparison groups were compared on a measure of life distress following treatment. Parents in the treatment group were also asked to evaluate levels of social support at the beginning and end of treatment. No significant changes were evident following treatment. Finally, no significant differences were reported between adolescents in the treatment and comparison groups, and adults in the two groups, when they were asked to evaluate therapist characteristics and motivation at the end of treatment.

Selected pre- and post-treatment variables were correlated with recidivism following treatment for adolescents and parents in both groups, to determine whether any of the selected variables predicted response to treatment. No significant correlations were detected when correlations were examined for adolescents and parents at pre- and post-treatment intervals, without reference to their group assignment. Significant correlations were reported on only a few variables when participants were examined at pre- and post-treatment intervals according to their group status. However, the predictive value of these variables is restricted by the smaller sample sizes reported when the variables were examined according to the group status of the participants.

CHAPTER 6

DISCUSSION

6.1 Introduction

Disturbances of conduct are relatively common in childhood and adolescence. More children are referred for mental health services as a result of conduct and behaviour problems than for any other reason (Webster-Stratton & Dahl, 1995). The prevalence and incidence of antisocial and delinquent behaviours increases dramatically through adolescence and may actually be normative by 16 or 17 years of age (Caspi & Moffitt, 1995; Moffitt, 1993). Despite this dramatic increase in delinquent behaviours during adolescence, most adolescents refrain from delinquent and antisocial behaviours as they enter into early adulthood, and are able to successfully negotiate this stage of the life cycle. However, a small minority of adolescents will continue to engage in criminal behaviours as adults. These individuals often exhibit behaviour problems and developmental delays from an early age, and are more likely than their peers to experience negative outcomes, including mental illness, as adults (Zoccolillo et al., 1992)

Moffitt (1993) identified adolescent-onset and life-course-persistent antisocial behaviour to differentiate between adolescents who engage in antisocial behaviours primarily in adolescence, and those who have exhibited behaviour problems from an early age. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) differentiates between adolescent-onset and childhood-onset Conduct Disorder (CD).

Individuals diagnosed with childhood-onset CD resemble Moffitt's life-course-persistent group.

Although some involvement in antisocial behaviour during adolescence may be normative, arrests and incarcerations are not. Adolescents who are arrested or incarcerated differ in this respect from the majority of their peers. They may be further distinguished if they meet the criteria for CD, because most adolescents are not diagnosed with this disorder, despite the prevalence of antisocial behaviours in adolescence (Campbell et al., 2000). Individuals who are diagnosed with CD are also likely to receive at least one other diagnosis as they age (Lambert et al., 2001). Delinquents who are diagnosed with childhood-onset type CD are further removed from the majority of their peers who are never diagnosed with CD.

Risk factors for CD have been identified and include parental psychopathology, strained family relationships, negative peer relationships, violent neighbourhoods, and poor school performance (Loeber, 1990). Individual factors have also been identified and include early disruptive behaviours, hyperactivity, impulsivity, cognitive deficits, and cognitive distortions (Lynam, 1996, 1997; Moffitt, 1993). Individuals diagnosed with childhood-onset CD are more likely to report an early age of first arrest, and an extensive criminal history in adolescence, when compared to individuals diagnosed with adolescent-onset CD, or those who are never diagnosed with CD (Loeber, 1991).

Andrews and Bonta (1998) reported that many of the risk factors noted above can be used to explain individual variation in criminal behaviour, predict risk factors and need, and provide the basis for a psychologically informed and effective treatment of offenders. They identified major and minor risk factors. Major risk factors include antisocial and criminal attitudes, values, and beliefs, along with antisocial peers and a corresponding absence of prosocial peers; temperamental and personality factors including impulsivity, recklessness, and poor problem-solving skills; an early history of antisocial behaviours manifested in a variety of ways in various settings; family factors including parental psychopathology, family discord and poor parenting; and poor educational, vocational, or financial performance. Among the minor factors, those that had less predictive power and a dubious or as yet unknown relationship to understanding and treating criminal behaviour on an individual level, Andrews and Bonta included socio-economic disadvantage; personal distress including poor self-esteem, depression, and anxiety; and biological and neuropsychological factors that have not been sufficiently integrated into a psychology of criminal conduct. Andrews and Bonta argued that effective treatment must target, in a manner that is consistent with the learning styles and needs of the offender, appropriate areas of need and risk.

Recent outcome studies have identified a number of effective treatments for adolescents and children with conduct problems and delinquency. Kazdin (2000) reported that parent-management training, cognitive problem–solving skills training, and multisystemic therapy appear to be particularly effective treatments. He noted that each of these treatments has been evaluated using controlled trials measuring outcomes in multiple domains over extended follow-up periods. Replication studies have also shown similar effects for the three types of interventions Kazdin identified. Kazdin and Weisz (1998) reported that effective programs are characterized by their focus on mechanisms associated with targeted behaviours, and the use of broad-based measures to evaluate change in these domains. Standardization of programs through the use of manuals, attention to therapist training, and adherence to treatment protocols, also characterize effective programs. Henggeler et al. (1998) outlined principles of effective intervention for the treatment of delinquents that included a commitment to focus on specific and well-defined problems in a systemic context, and to utilize existing individual, family, and social network strengths. Interventions should also be developmentally appropriate, and target sequences of behaviours in order to develop new skills that can be maintained and generalized across settings.

A series of literature reviews and meta-analyses conducted over the past 15 years has shown that treatment programs for adolescents in conflict with the law are effective (e.g., Andrews et al., 1990; Dowden & Andrews, 1999a, 1999b, 2000; Gendreau, 1996; Gendreau & Andrews, 1990; Gendreau & Ross, 1979, 1987; Lipsey, 1992, 1995, 1999; Lipsey & Wilson, 1998; Lösel, 1995, 1996). Cognitive-behavioural, skill-oriented and multi-modal programs, and individual counselling, appear to be most effective (e.g., Lipsey, 1992, 1995; Lipsey & Wilson, 1998; Lösel, 1995). In addition, evidence supports the use of programs that consider criminogenic need, risk, and responsivity (e.g., Andrews, 1995; Andrews et al., 1990; Dowden & Andrews, 1999a, 1999b, 2000).

An intensive, home-based program was developed, delivered, and evaluated for this dissertation. Male adolescents referred to the Centerpoint outpatient clinic in downtown Edmonton, Alberta, as a result of counselling conditions attached to their probation order, were eligible to receive the home-based program, or services-as-usual at the Centerpoint clinic. The home-based program combined relapse prevention training with family-level interventions including structural family therapy and parent-management training. The home-based program also incorporated the principles and characteristics of effective interventions noted above (Henggeler et al., 1998; Kazdin & Weisz, 1998).

The results achieved by participants in the home-based program were compared to those achieved by participants receiving services-as-usual at the Centerpoint clinic. Based upon recent findings regarding the effect of intensive, home-based programs (Henggeler et al., 1998; Swenson et al., 2001), it was expected that adolescents who received services in the home would report more favorable outcomes than those who received services at the clinic, although both groups of adolescents were expected to report improvement following treatment.

The research questions posed in Chapter 2 are addressed in this chapter. The findings are then discussed with reference to the literature that addresses the treatment of adolescents in conflict with the law. The limitations of the research are also identified and areas for future research are considered.

6.2 Research Questions

6.2.1 Introduction

Ultimate and instrumental outcomes were identified in this dissertation. Ultimate outcomes refer to changes in the target problem including official criminal behaviours as well as self-report delinquency and parent reports of adolescent conduct problems and aggression. Ultimate outcomes are examined in research question #1 below. Instrumental outcomes refer to outcomes associated with processes or mechanisms thought to be associated with a target problem. Instrumental outcomes in this dissertation refer to changes in individual and family functions associated with delinquency. Instrumental outcomes are considered in research questions #2 and #3 below. Research question #4 examines the correlation between recidivism at 6 months and specific variables for adolescents and parents at pre- and post-treatment intervals. The final research question examines whether treatment effects can be attributed to the intensive, home-based intervention.

6.2.2 Did adolescents who received intensive, home-based services demonstrate better outcomes than adolescents in a comparison group who received services-as-usual in a clinic setting, on measures of recidivism?

Sixty-two adolescents were followed for a 6-month period following treatment in order to examine recidivism. Charges and convictions were used to track official criminal activity following treatment. Charges were included because they may indicate the persistence of criminal behaviours of sufficient magnitude to warrant the attention and involvement of the police, even though not all charges result in findings of guilt, and the actual number of criminal incidents may be exaggerated as a consequence. Of the 62 adolescents that were followed, 36 were from the treatment group and 26 were from the comparison group. Twenty-seven (75%) of the adolescents in the treatment group had not reoffended over the 6-month period following treatment and 20 (77%) of the adolescents in the comparison group had not reoffended over a similar time period.

A chi-square analysis failed to detect any significant differences between the two groups, with reference to recidivism in the 6 months following treatment, and thus failed to show expected and significant effects for the treatment group intervention compared to the comparison group intervention. The failure to detect significant differences between the two groups may be due to a number of factors including significant pre-treatment differences between participants in the two groups, therapist factors, and program factors. It was assumed that significant differences would emerge and that these differences would be related to the characteristics of the interventions provided, rather than to offender or therapist factors. These will be examined briefly below.

Pre-treatment differences between participants on key variables can affect outcomes if they mean that participants in one group are significantly more or less likely to benefit from treatment than participants in another group. The likelihood of this occurring can be considered by examining key variables associated with treatment response or outcome, such as age at intake or criminal history (Lipsey, 1999). In this case, the expected benefits of the home-based program may be diminished if the treatment group appeared less likely to respond to treatment, or the comparison group appeared more likely to respond favorably, on the basis of these variables. However, participants in both groups were similar on a number of key variables at intake including age at first conviction, mean number of all convictions, and mean severity rating for all convictions. They differed significantly on age at intake, with the comparison mean exceeding the treatment mean by approximately 6 months, as well as self-report delinquency, with the comparison group reporting significantly higher levels of undetected delinquent behaviour. The slightly older age at intake may have produced an advantage for adolescents in the comparison group since older delinquents appear to respond more favorably to treatment (Lipsey, 1999), while the higher level of undetected delinquency may have produced a disadvantage if it reflected a more criminal lifestyle. It is also possible that the higher level of undetected delinquency was confounded with the slightly older age at intake and the overall effect of these two variables was negligible, when considering their effect on treatment response. The position taken here is that the two groups were similar on key variables at the start of treatment and the results of the intervention were not significantly affected by the differences in offender characteristics at intake.

Adolescents and parents were asked to complete the Revised Helping Alliance Questionnaire in order to determine whether their response to the therapist assigned to them affected outcomes. Although not all participants completed the post-test measure, there were no significant between-group differences reported by those who did. Similarly, both therapists were considered to be equally competent in their fields and shared reputations as capable and engaging clinicians. There was no evidence that therapist characteristics played a significant role in outcomes for either group so neither group was considered to have been advantaged or disadvantaged as a result of the therapist assigned to them.

While offender and therapist characteristics were not expected to affect outcomes for either group, program characteristics were expected to play a major role. Specifically, it was expected that adolescents in the treatment group would report significantly lower rates of recidivism than adolescents in the comparison group because they received intensive, home-based services. These results were not realized, as noted in the chi-square analysis referenced above. The failure to detect a significant difference may be due to the fact that both programs employed well-trained therapists who utilized cognitive-behavioural approaches to target personal factors thought to be associated with the offender's criminal behaviour, and who included the family in treatment whenever possible and appropriate. In this regard, both programs resembled approaches already shown to be most effective with offenders (Cullen & Gendreau, 2000; Henggeler et al., 1998; Lipsey, 1999). It may be the case that these factors were potent enough to override any benefits that might have accrued to adolescents in the treatment group who received a higher dose of treatment in the home.

The failure to detect significant differences between the two groups should not diminish the notable results achieved by both groups. A chi-square goodness-of-fit test was conducted to compare the reoffence rates of all adolescents in the treatment and comparison groups to hypothesized reoffence rates that reflected an equal chance of offending and not offending following treatment. It was assumed, for the purpose of this analysis, that equal chances of engaging in, or abstaining from, criminal behaviour following treatment would resemble the effects of poorly conceived treatment, or no treatment at all, as discussed in Lipsey (1999). The actual number of adolescents that had not reoffended in the 6 months following treatment was higher, for both groups, than the expected frequencies based on the assumptions of the goodness-of-fit test. Similarly, the actual number of adolescents that had reoffended in the 6 months following treatment was lower, for both groups, than the expected numbers based on the assumptions of the test. A significant chi-square value was reported in this instance ($p \leq .01$), indicating that the actual frequencies differed significantly from the hypothesized frequencies that predicted no effect from treatment. The reduction beyond chance was attributed to the effects of treatment in both cases, even though significant between-group differences were not detected.

The results achieved by participants in both groups are notable, given previous findings regarding recidivism among Canadian young offenders. Leschied, Austin, and Jaffe (1988) reported that 58% of a sample of 126 youth ordered to undergo a psychiatric assessment as a result of the serious nature of their offence, chronic delinquency, or emotional difficulties, reoffended within one-year. Approximately 75% of these individuals were rearrested in the first 3 months of follow-up. Similarly high rates of rearrest have been reported using much larger samples in the United

States (Bureau of Justice Statistics, 1987, cited in Visher, Lattimore, & Linster, 1991).

These results also compare favorably with those reported for practical programs by Lipsey (1999). Lipsey reported that the mean effect size of the 196 programs he examined was .07 which equated to a 3% reduction in recidivism based upon a reoffence rate of 50%. He also reported that there was considerable heterogeneity around the mean and that the most effective programs achieved reductions in criminal behaviours of 10% to 25%. A 25% reduction would result in a recidivism rate of about 38% (12/50) for treated adolescents. As noted above, the recidivism rates reported for the treatment and control groups in this study were 25% and 23%, respectively. Although these rates may change as the time following treatment increases, offenders are also thought to be at highest risk for reoffending in the first 3 months following sentencing (Leschied et al., 1988)

With reference to the other measures of ultimate outcome, adolescents in the comparison group were more likely to report a reduction in antisocial and criminal behaviours as measured by the Self-Report Delinquency Scale, than were adolescents in the treatment group. Significant reductions in self-report criminal behaviour were identified for the comparison group for Minor Theft, Minor Arrest, Index Offence, General Delinquency, and Total Score with significant time-group interactions, arising from improvements in comparison means, on Index Offence and Total Score. No significant reductions were reported for the treatment group.

Parental reports of adolescent behaviours, using the Revised Behavior Problem Checklist, indicated significant improvements in the expected direction for both the treatment and comparison groups. Time effects, and significant reductions toward the normative sample mean, were reported for both groups for Conduct Disorder, while significant reductions in the treatment mean for Socialized Aggression, and the comparison mean for Attention Problems/Immaturity, were identified. Both groups resembled the normative sample on the Conduct Disorder subscale following treatment. No significant time-group interactions emerged on the subscales most closely related to antisocial and delinquent behaviours.

6.2.3 Did adolescents who received intensive, home-based services demonstrate better outcomes than adolescents in a comparison group who received services-as-usual in a clinic setting, on measures of family and individual functioning?

Neither group of adolescents reported significant improvements over the course of treatment on the seven subscales of the Family Assessment Measure that evaluate family processes, or on the Total scale that measures overall family functioning. Contrary to expectations, adolescents in the treatment group reported significantly higher levels of concern with overall family functioning following treatment (ES = .43, *p* = .06), and a significant time-group interaction was identified on the subscale measuring Values and Norms as a result of a significant increase in the treatment mean over time. All scores remained significantly above the means for the normative sample following treatment with the exception of comparison group means for Values and Norms and Affective Expression, although most subscale scores remained near the top of the average range.

There was no indication, based upon post-treatment results for the Youth Coping Index, that adolescents in either group were more likely to adopt more effective coping strategies. A group effect was noted on the Positive Appraisal and Problem-solving subscale but neither the treatment or comparison group changed significantly, on this subscale, over the course of treatment. No other group effects, and no significant changes, were noted over time, suggesting that coping skills did not change significantly as a result of the treatment. It should be noted that subscale means were equivalent to the normative mean, and higher in one case, and they remained that way following treatment.

6.2.4 Did parents of adolescents in the intensive, home-based program report better outcomes than parents of adolescents receiving services-as-usual in a clinic setting, on measures of family and individual functioning following treatment?

No time-group interactions emerged for parents in the treatment and comparison groups on any of the Family Assessment Measure subscales. Significant reductions in the comparison group means for Task Accomplishment and Control accounted for significant time effects on those subscales. A significant reduction was identified for the treatment group mean for Communication but no group or time effects emerged. All subscales scores remained significantly elevated after treatment, when compared to the normative data, with the exception of the comparative mean for Affective Expression, as did the overall mean scores.

No significant reductions in life stress were reported by either group following treatment, on the Life Distress Inventory, and parents in the treatment group failed to report a significant increase in their perceived or actual levels of social support following treatment.

Although a reduction in criminal and antisocial behaviours was realized for both groups following treatment, significant improvements in individual and family functioning generally were not obtained. Two possibilities can be considered in this regard. First, it may be that neither intervention was able to produce significant improvements in these areas, despite a reduction in criminal behaviour, but that improvements in these areas are not necessary for reductions in the target behaviours. In this case further exploration into the actual mechanisms of change is required. Huey, Henggeler, Brondino, and Pickrel (2000) noted that very little research has been conducted into the mechanisms of change among children and families in treatment, despite the vast amount of research that has identified risk factors and suggested contributing mechanisms. Second, it is possible that participants did experience improvements in individual and family functioning, and that such changes are necessary to sustain a reduction in criminal behaviour, but these changes were not detected with the instruments that were used. With respect to this concern, Henggeler, Melton, Brondino, Scherer, and Hanley (1997) previously reported that the Family Assessment Measure failed to detect expected improvements with families of serious and chronic juvenile offenders, even though substantial reductions in criminal behaviour were achieved.

A related issue is reliance upon measures of statistical significance to evaluate the effects of treatment. Southam-Gerow and Kendall (1997) acknowledged that statistical tests of significance are necessary because they provide evidence of change beyond chance alone, however changes that only approach statistical significance are frequently overlooked. Kazdin (1998) noted that comparisons to normative data provide an additional useful means of evaluating clinical significance, because they permit a comparison with non-clinical samples. In addition, as has been done in this study, Kazdin stated that alternative levels of significance (e.g., $p \leq .10$) should be considered due to the difficulties in finding significant effects for small samples or in studies where the differences between the two groups to begin with are unlikely to be great.

6.2.5 Did selected variables at pre- and post-treatment intervals predict recidivism at 6 months?

Offender characteristics have been shown to correlate with response to treatment. Lipsey (1999) reported, for example, that older adolescents, with more serious criminal histories, were more likely to benefit from treatment. These findings reflect those reported elsewhere (e.g., Cullen & Gendreau, 2000; Dowden & Andrews, 2000). In this study, selected pre- and post-treatment variables were correlated with recidivism following treatment for adolescents and parents in both groups, to determine whether any of the selected variables predicted recidivism in the 6 months following treatment.

No significant correlations were detected when recidivism was matched against age at intake and criminal history for all adolescents at intake. Similarly, no significant correlations emerged when adolescents were considered on the same variables at intake, but with reference to their treatment or comparison group status.

Recidivism for adolescents and adults was also correlated with a variety of other variables measuring individual and family functioning at the beginning and end of treatment. In these cases correlations were calculated considering all adolescent participants as a group, and according to their treatment and comparison group status. A similar procedure was used for the parents. Recidivism was not significantly correlated with any of the variables that were selected at either the pre-treatment or post-treatment stages when all adolescents were analyzed as a group, or when the parents were analyzed as a group. Some significant correlations were detected for a few variables when participants were examined at pre- and post-treatment intervals according to their group status. However, the predictive value of these variables is restricted by the smaller sample sizes that resulted when variables were examined according to the group status of the participants.

The failure to find significant correlations may be due in part to the relatively short follow-up period assessed in this study. Although a 6-month follow-up is considered to be acceptable, it is possible that recidivism rates would change as individuals are followed for longer periods of time, and that significant correlations might emerge, especially for more robust variables such as age of first arrest, age at intake, and the severity of criminal history. The predictive utility of some of the other variables, such as psychiatric or social symptomatology, may be limited by their weaker association with delinquency (Andrews & Bonta, 1998); difficulties in measuring specific aspects of family functioning or individual distress (Henggeler et al., 1997); or difficulties understanding how, or whether, efforts to address risk factors are related to improvements in the target problem (Huey et al., 2000).

6.2.6 If treatment effects are evident for the treatment group can these be explained as a function of the integrated home-based intervention?

Using a repeated measures analysis, special treatment effects can be detected by significant time-group interactions. Significance levels of .05 and .10 were considered when analyzing treatment effects. The latter level of significance was included in order to compensate for the small sample sizes and to identify differences that might be notable, or clinically significant, but undetected at a more stringent level of analysis. The significance levels were identified in the discussion of treatment effects. Significant interactions attributable to the treatment group were expected. However, an examination of overall or total scale scores on the measures that were used, revealed no interactions, and hence no treatment effects, for either the treatment or comparison groups, when total scale scores were examined. However, significant interactions ($p \leq 10$) were identified for adolescents on a number of subscales.

Time-group interactions were reported on the Self-Report Delinquency Scale for Felony Theft, Index Offence and Total Score. Reductions in the comparison mean appear to account for the interactions reported for the Index Offence and Total Score. A large and significant effect was reported for the comparison group for Index Offence (ES = .58, *p* = .10). A similarly effect (ES = .64, *p* = .08) was reported for the comparison group for Total Score.

Although both interventions targeted primarily antisocial and delinquent behaviours, an interaction was identified for adolescents on the Psychotic Behavior subscale of the Revised Behavior Problem Checklist. This can be attributed to a large and significant reduction in the comparison group mean over time (ES = .95, *p* = .01). It should be noted that the comparison mean resembled the normative sample at both the beginning and end of treatment.

A significant interaction emerged for adolescents on the Values and Norms subscale on the Family Assessment Measure. This interaction can be explained in terms of a large and significant increase in the treatment mean over time (ES = .54, *p* = .02). The elevated mean following treatment indicates greater levels of concern. While change in this direction was not expected it might be attributed to parental efforts to assume greater responsibility for care and discipline within the home.

A significant interaction was also noted for parents on the Life Distress Inventory for Career Concerns. This interaction can be attributed to a large and significant increase (ES = .97, *p* = .00) in the comparison mean over time, reflecting heightened levels of concern for this domain over the course of treatment.

As noted above, a repeated measures analysis was used to identify effects of treatment. No interactions were reported for adolescents or parents when overall or total scores were examined on any of the measures that were used. Some significant interactions were reported at the subscale level for both adolescents and parents, however, there is no evidence to suggest that adolescents in the treatment group did consistently better than adolescents in the comparison group, or that such improvements can be attributed to the in-home program. For example, significant interactions identified on the Self Report Delinquency Scale are best understood as a result of significant improvements identified by adolescents in the comparison group, while a significant interaction for the Values and Norms subscale of the Family Assessment Measure arose as a result of greater concerns by adolescents in the treatment group following treatment.

6.2.7 Summary

A total of 62 adolescents were followed for 6 months each following treatment. Twenty-six of the 36 treatment group adolescents, or 75%, did not reoffend in that time. Twenty of the 26 comparison group adolescents, or 77%, did not reoffend. Although no significant between-group differences were detected for either those who reoffended or those who did not, the corresponding recidivism rates were significantly lower than those that would be expected if adolescents had an equal chance of offending or abstaining from criminal behaviour following treatment. The results also compared favorably to known recidivism rates and to the recidivism rates for practical programs reported by Lipsey (1999).

These favorable results cannot be explained, however, with reference to corresponding changes in instrumental outcomes. Although it was expected that changes in individual and family functioning would contribute to reductions in criminal behaviour, and that the improvements reported by adolescents and parents in the treatment group would exceed those reported by participants in the comparison group, such changes were not common and cannot be used to explain the significant reductions in criminal behaviour that did occur. Further, response to treatment, as measured by recidivism, was not significantly correlated with selected pre- or post-treatment variables when adolescents and parents were examined without reference to their treatment or comparison group affiliations, and only a few correlations of negligible heuristic value were identified when correlations were examined for adolescents and parents with respect to their group membership.

6.3 Limitations

A number of limitations can be identified. First, individuals were not randomly assigned to the treatment and control groups. In some cases adolescents or their parents requested to receive treatment in the home, while in other cases they requested to be seen at the Centerpoint clinic. Clients may have considered previous experiences in treatment, the recommendations of other professionals, or convenience, when making their choice, but, in keeping with accepted convention in clinical research (Chambless & Hollon, 1998), their wishes were accommodated whenever possible and appropriate. However, despite this, adolescents in both groups were considered to be equivalent on measures of criminal behaviour and verbal proficiency, as well as individual and family functioning, at the beginning of treatment. A significant age difference was detected for the two groups of adolescents at intake. Given the similarities between both groups at the start of treatment, it is reasonable to assert that initial differences between the two groups at intake had only a negligible, if any, effect on any significant between-group differences that were detected following treatment. Parents were similarly compared on measures of individual and family functioning at intake, and were judged to be equivalent.

Second, due to the absence of a control group that received no treatment, the effects of maturity cannot be ruled out when considering the reductions in criminal behaviour that were achieved. However, it has already been established that the effects reported in this study exceeded those that would be expected as a result of chance alone. In addition, the likelihood that the reductions in criminal behaviour were achieved as a result of maturity alone is low, given the stability of criminal and antisocial behaviours among adolescents with a history of conduct problems from childhood (Caspi & Moffitt, 1995) and specific characteristics of the participants in this study, including a mean age for first convictions slightly higher than 13 years of age for both groups, and conviction means of 8.26 and 7.12 for the treatment and comparison groups, respectively, prior to treatment.

Third, the reduction in criminal and antisocial behaviours that occurred cannot be attributed to the intensive, home-based treatment because both groups reported similar and significant reductions in official criminal behaviours. Significant effect sizes are less likely to emerge when two treatments are being compared, because of the assumption that both treatments should have a positive effect on targeted behaviours. The likelihood of obtaining significant effects is further reduced in a study such as this when both treatments are based on sound clinical principles. However, a purpose of this dissertation was to evaluate the effects of an intensive, home-based program, and an existing clinic-based service, to assist in the further development of community-based services for young offenders. This result was achieved through the determination that both programs are effective in reducing recidivism well beyond the reductions that would be obtained on the basis of chance alone.

Fourth, although reductions in criminal behaviours following treatment were achieved, corresponding improvements in individual and family functioning were not realized. It was thought that reductions in criminal behaviours would be associated with an improvement in family functioning, a reduction in stress, an increase in the levels of social support, and enhanced coping. It was further expected that adolescents and parents in the treatment and control groups would report significantly greater improvement in these areas than their counterparts in the comparison group. These latter improvements were classified as instrumental outcomes. Neither effect was realized.

It is possible that the mechanisms of change were not properly delineated and that some or all of the instrumental outcomes that were chosen were inconsequential, with reference to the reduction in criminal and antisocial behaviours that was achieved. Alternatively, it is possible that the individual and family-level factors that were identified are significant, but that the measures that were chosen to evaluate change on those levels were not sufficiently sensitive to the types or extent of changes that actually occurred.

Finally, a substantial number of adolescents and parents in both groups failed to complete post-treatment measures. Consequently, although it is possible to obtain recidivism data on all adolescent participants, statistical inferences regarding individual and family functioning must be based on smaller sample sizes. Chambless and Hollon (1998) noted that sample sizes of about 25-30 per condition allow for reasonably stable estimates of the effects of treatment. Although sample sizes approached or exceeded this range at the beginning of treatment, they generally ranged from 10-20 at the end of treatment, with a number ranging from 15-20 per condition. It should be noted, however, that this meets or exceeds the median sample size of 12 reported by Kazdin and Bass (1989).

6.4 Directions for Future Research

Chambless and Hollon (1998) differentiated between efficacious and possibly efficacious treatment. In order for a treatment to be considered efficacious it must produce the expected outcome in at least two separate studies conducted by independent researchers. Further, treatment procedures must be clearly delineated, treatment integrity must be monitored, and multiple outcomes measures must be employed. Appropriate clinical samples must also be used, and long-term outcomes must be considered. Exemplary studies utilize random assignment to establish treatment and control groups in order to establish efficacy. Treatments that produce the expected outcomes but are not replicated, or are replicated by the same team of investigators, can be considered as possibly efficacious. The intensive, home-based treatment evaluated for this dissertation can be considered as possibly efficacious, based on the reduction of targeted behaviours. In order to determine whether the model of intensive, home-based therapy offered to the adolescents in this study is efficacious it will be necessary to replicate the effects reported here in separate and independent investigations.

A number of design and methodological issues have been identified as limitations above. These should be addressed prior to any replication intended to further evaluate efficacy. Participants should be randomly assigned in order to eliminate selection bias, and to promote equivalence between groups. Individuals who specifically request home- or clinic-based treatment should be accommodated, but should not be included in the analysis of treatment effects. While treatment should not be intentionally withheld from anyone referred for therapy, or requesting it, a group of offenders who do not receive treatment should also be identified. These individuals can be identified using existing databases, and could be compared according to age of first arrest, number and severity of offences, and ongoing criminal activity. This would permit comparisons between offenders who do not receive therapy, and those in the home- and clinic-based programs, in order to consider the effects of maturity or other extraneous variables that may affect recidivism.

The failure to detect expected changes in individual and family functioning in this research may mean that the measures selected were not sufficiently sensitive to detect the full extent of actual changes that did occur, or they were not able to measure actual changes that did occur. If this is the case, alternate or additional measures of family functioning should be utilized in order to determine whether the presumed mechanisms of change are in fact germane. Another possibility is that the mechanisms of change that have been identified are not relevant, or are less relevant than other mechanisms that have not been identified.

If the proposed mechanisms of change are not germane, or are less significant than previously thought, consideration should be given to identifying additional or alternate factors that promote change. For example, Habermas and Bluck (2000) emphasized the importance of autobiographical reasoning for adolescent development. They suggested that autobiographical reasoning involves a process of self-reflective thinking and is central to the emergence of identity in adolescence. This emphasis on personal narrative and self-reflection is consistent with emerging cognitive and cognitive-behavioural therapies in the field that encourage adolescents to examine cognitive patterns in order to alter assumptions, explanations, and behaviours. An examination of narrative, and consideration of autobiographical reasoning, may help to explain why some individuals are able to change their behaviours even though other dimensions of their lives may remain essentially unchanged.

Understanding how change occurs is significant for the current research. Evaluations of effective programs for adolescents have increasingly emphasized the need for treatment protocols, and the importance of manuals, to help ensure the integrity of the programs and to facilitate change (Henggeler et al., 1997; Kazdin, 1998; Lösel, 1996; McGuire, 2000). Frequently, greater emphasis is placed on techniques to promote engagement and change, than on therapist characteristics, including personality characteristics, which may be similarly effective (Cunningham & Henggeler, 1999). Further research is required in order to determine whether the strategies suggested by Henggeler and others can be used to encourage change if change occurs, at least in some instances, as a consequence of therapist characteristics, or through the use of narrative, and the development of autobiographical reasoning, rather than through strict adherence to treatment protocols and manualized programs. These questions are relevant to the current research, given the emphasis on treatment protocols, manualized treatment, and therapist adherence for the treatment group in this study.

Cultural factors may also influence a client's response to, or preference for, a particular emphasis in therapy. An examination of the interplay between culture and the therapy offered to adolescents in conflict with the law is necessary in order to devise the most effective treatments possible. The current model emphasized family-level interventions and relapse prevention training. Family therapists have recently begun to consider the effect of culture on family therapy and have begun to incorporate this knowledge into their practice (e.g., McGoldrick, Giordano, & Pearce, 1996). Although the relapse prevention model appears to encourage culturally appropriate interventions through the identification and use of coping strategies that are meaningful to the participant, it should be examined further to ensure that it can be properly adapted for use in different cultural contexts.

Limitations to the application of home-based programs should also be explored. These limitations may arise either as a result of the recognition that not all adolescents require intensive, home-based services, or from a recognition that home-based services, despite their current popularity, are not effective, or may not be most effective, in all cases.

With reference to the first consideration, the results of this study show that both the home-based and clinic approaches were effective for treating adolescents in conflict with the law. The success of the clinic-based service indicates that this particular program is a viable alternative for some adolescents in conflict with the law. Further consideration should be given to identify those individuals who might benefit from less intensive clinic-based services, and those who may require more intensive home-based services. Andrews and his colleagues (e.g., Andrews, 1995; Andrews & Bonta, 1998; Andrews et al., 1990) identified major and minor risk/need factors and indicated that intensive services should be directed at those most at risk. An assessment of adolescents based upon the risk factors identified by Andrews and his colleagues, in order to determine the level of service required, would be appropriate. Such an assessment should also include practical considerations such as transportation, job schedules, and daycare, as well as cultural considerations including willingness to invite strangers into the home and to utilize extended family and community supports.

The notion of providing a level of service based upon an assessment of identified factors appears particularly relevant considering emerging knowledge regarding the etiological and prognostic differences between childhood- and adolescent-onset CD. Although individuals diagnosed with adolescent-onset CD are at significantly higher risk for negative outcomes in adulthood, when compared to their peers who are not diagnosed, they are less likely to exhibit the developmental deficits that characterize childhood-onset individuals, and are thus more likely to have a greater repertoire of skills to apply in treatment. It is also possible that the families of these individuals differ from the families of adolescents diagnosed with childhood-onset CD, and that these families likewise have better skills to apply in therapy. It is important to consider whether these adolescents, and their families, require less intrusive forms of therapy, and whether they may actually respond poorly to home-based services.

With reference to the limitations of home-based programs, Thompson and Ontai (2000) emphasized the need to exercise caution in the extension and application of home-based services. They noted that home-based services have proliferated over the past decade, including those offered to conduct-disordered youth, but some recent evaluations have provided less than favorable results. They cited Gomby et al. who reported that program benefits were often modest and that home-based programs continued to experience low rates of participant involvement and high rates of attrition. Others have noted that home-based programs are not necessarily more effective than clinic-based services (MacKenzie-Keating & McDonald, 1997) and, despite the current enthusiasm for home-based services, factors such as maternal isolation, parental psychopathology, life stress, and parenting strain are often impervious to home-based interventions (Webster-Stratton, 1985). Further consideration of the factors that may contraindicate the use of home-based services is needed. Thompson and Ontai suggested that researchers need to consider what kinds of families are most likely to benefit from home-based programs, for what types of problems, and under what conditions.

Finally, Silverthorn and Frick (1999) noted that much of the research that has been conducted on delinquents has focused on males (see also Dowden & Andrews, 1999b). They argued that many of the factors associated with delinquency in males also appear to contribute to early conduct problems and delinquency in females. In fact, some of the factors previously identified for males might be even more salient because they may be more pronounced for females. They cited previous research indicating that female delinquents tend to live in non-intact nuclear families with a history of numerous parental changes, experience high levels of physical abuse, and are more vulnerable to sexual abuse from itinerant males in the home. Although recent evaluations have begun to consider the effects of treatment on female delinquents (see for example, Borduin et al., 1995; Dowden & Andrews, 1999b; Henggeler, 1992) the current study did not include females. Given the recent findings regarding the development of delinquency in females, and the salience of family factors, the current study should be expanded to include females referred for treatment.

6.5 Conclusion

An intensive, home-based program was developed, delivered, and evaluated for this dissertation. Male adolescents referred to the Centerpoint outpatient clinic in downtown Edmonton, Alberta, as a result of counselling conditions attached to their probation order, were eligible to receive the home-based program, or services-as-usual at the Centerpoint clinic. The home-based program combined relapse prevention training with family-level interventions including structural family therapy and parent-management training.

The results achieved by participants in the home-based program were compared to those achieved by participants receiving services-as-usual at the Centerpoint clinic. It was expected that adolescents who received services in the home would report more favorable outcomes than those who received services at the clinic, although both groups of adolescents were expected to report improvement following treatment.

Reductions in official criminal behaviour were reported for adolescents in the treatment and comparison groups over a 6-month period following treatment. Contrary to expectations, adolescents in the treatment group could not be differentiated in a statistically significant manner from the adolescents in the comparison group, based upon their rates of reoffence following treatment. However, the recidivism rate for both groups of offenders compared favorably to those reported for other treatment programs and was significantly lower than a hypothesized recidivism rate of 50% following treatment.

These favorable results cannot be explained, however, with reference to corresponding changes in instrumental outcomes. Although it was expected that changes in individual and family functioning would contribute to reductions in criminal behaviour, there is no evidence that such changes occurred, or that the treatment offered to the adolescents in the treatment group accounted for significantly greater changes in either ultimate or instrumental outcomes.

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APPENDIX 1

DESCRIPTION OF THE CENTERPOINT PROGRAM

(BROCHURE)

Alberta Mental Health Board

FORENSIC ASSESSMENT & COMMUNITY SERVICES

(A program of Alberta Hospital Edmonton)

CENTERPOINT PROGRAM

Who Is Eligible?

- Adolescents 12 to 18 years of age serving a period of open custody or probation under the Young Offenders Act
- Referrals are accepted from probation officers, the Edmonton Young Offender Centre, young offender group homes, Alberta Hospital Edmonton's Turningpoint Program and Counterpoint programs, and other agencies working with young offenders.

What Do We Do?

- Conduct an initial assessment to determine treatment needs and develop an individualized treatment plan
- Provide individual, family and/or group therapy as appropriate.
- Deliver Anger Management, Sexual Offender, and High-Risk Relapse Prevention groups.

Our Goals:

To assist youth to:

- Reduce their behavioral and psychiatric symptomatology.
- Improve their level of interpersonal and social functioning.
- Develop strategies to reduce the risk of re-offense.

Where And When?

8th Floor, 105 Street Building
10242 - 105 Street
Edmonton, AB
T5J 3L5

Meeting Place:

- **FACS Group Room** ____________
- **Meeting Time** ______________

Alberta Mental Health Board

APPENDIX 2

VERBAL EXPLANATION OF IN-HOME PROJECT: TELEPHONE SCRIPT

(ADOLESCENT AND PARENT VERSIONS)

Verbal Explanation of In-home Research Project and Verbal Consent (Adolescent Version)

Hello. My name is __________ , and I'm with the Centrepoint program for young offenders. I'm calling you today because your probation officer sent us a referral for counseling. Did your know that he/she was making this referral?

I would like to talk to you, and your mother or father (guardian), about a new program that we are offering, to see whether you would be intereted in taking part in it.

The normal Centrepoint program involves counselling appointments with adolescents, and often with their families, at the Centrepoint offices downtown. One of the goals of the program is to deal with the issues that might be related to your criminal behaviors in order to help you stop committing crimes. Because counselling is a condition of your probation, counselling may continue until your probation order has expired.

We are currently involved in a research program that includes the possibility of working with you and your family in your home, instead of at the clinic downtown, and we would like to ask whether you would agree to participate in the research project. If you agree to participate you would be assigned to one of three groups:

- **one group** would receive counseling in the home, as I already described,
- the **second group** would receive the **normal treatment** already offered in the Centrepoint program, at the downtown clinic, but would be asked to provide some **extra information**, in addition to the information the program normally collects, so that we can evaluate the project,
- the **third group** would receive regular treatment at Centrepoint, and would only have to provide the information that is already collected there for assessment and treatment.

You are also free to **choose not to participate**. In that case you will be referred to someone at the Centrepoint clinic who will arrange to see you, as is normally done. All the treatment we provide is similar to the **most effective programs that are currently available**, and we believe that the treatment provided in the home will be **at least as effective** as that provided at the Centrepoint clinic:

In addition:

Verbal Explanation of In-home Research Project and Verbal Consent
(Adolescent Version)

- you are completely **free to agree or not agree** to participate and your decision will not affect how quickly you and your son are seen by a counsellor either at home or at the clinic,
- any information that we gather for research purposes will be handled only by those involved in the research, and in a **completely confidential manner**, so that your identity will not be revealed
- also, if you agree we will ask you to sign **written consent forms**, and
- you can **withdraw from the home-based program** at any time and receive the treatment that is currently offered at Centrepoint.

Do you have any questions about what we are asking? Can we include you in the research program and assign you to one of the three groups I described earlier?

If you and your mother or father (or guardian) agree, someone will be calling you shortly, to let you know which group you were assigned to and what you need to do next. If you choose not to participate, your referral will be handled in the normal manner by staff in the Centrepoint program.

Date:

Name of Adolescent:

Verbal Consent: ______ Yes

______ No

File number:

Name of Caller:

Signature of Caller:

Verbal Explanation of In-home Research Project and Verbal Consent (Guardian Version)

Hello. My name is __________ , and I'm with the Centrepoint program for young offenders. I'm calling you today because your son's probation officer sent us a referral for counseling. Did your know that he/she was making this referral?

I would like to talk to you, and your son (or _______), about a new program that we are offering, to see whether you would be intereted in taking part in it.

The normal Centrepoint program involves counselling appointments with adolescents, and often with their families, at the Centrepoint offices downtown. One of the goals of the program is to deal with the issues that might be related to your son's (or ______'s) criminal behaviors in order to help him refrain from his criminal behavior. Because counselling is a condition of your son's (or _______'s) probation, counselling may continue until his probation order has expired.

We are currently involved in a research program that includes the possibility of working with you and your son (or ______) in your home, instead of the clinic offices downtown, and we would like to ask whether you would agree to participate in the research project. If you agree to participate you would be assigned to one of three groups:

- **one group** would receive counseling in the home, as I already described,
- the **second group** would receive the **normal treatment** already offered in the Centrepoint program, at the downtown clinic, but would be asked to provide some **extra information**, in addition to the information the program normally collects, so that we can evaluate the project,
- the **third group** would receive regular treatment at Centrepoint, and would only have to provide the information that is already collected there for assessment and treatment.

You are also free to **choose not to participate**. In that case you will be referred to someone at the Centrepoint clinic who will arrange to see you, as is normally done. All the treatment we provide is similar to the **most effective programs that are currently available**, and we believe that the treatment provided in the home will be **at least as effective** as that provided at the Centrepoint clinic:

Verbal Explanation of In-home Research Project and Verbal Consent
(Guardian Version)

In addition:

- you are completely **free to agree or not agree** to participate and your decision will not affect how quickly you and your son are seen by a counsellor either at home or at the clinic,
- any information that we gather for research purposes will be handled only by those involved in the research, and in a **completely confidential manner,** so that your identity will not be revealed
- also, if you agree we will ask you to sign **written consent forms,**
- and, you can **withdraw from the home-based program** at any time and receive the treatment which is currently offered at Centrepoint.

Do you have any questions about what we are asking? Can we include you in the research program and assign you to one of the three groups I described earlier?

If you and your son (or ______) agree someone will be calling you shortly, to let you know which group you were assigned to, and what you need to do next. If you choose not to participate, your referral will be handled in the normal manner by staff in the Centrepoint program.

Date:

Name of Guardian:

Verbal Consent: ______ Yes
______ No

File number:

Name of Caller:

Signature of Caller:

APPENDIX 3

ORIGINAL AND AMENDED CONSENT FORMS

(ADOELSCENT AND PARENT VERSIONS)

Adolescent consent for assignment to the treatment group in the research program evaluating an integrated, home-based treatment for adolescents in conflict with the law
(Alberta Hospital Edmonton)

I, ______________________, an adolescent referred to the Centrepoint Program for counseling, have agreed to participate in a research program evaluating an **integrated, home-based program for adolescents** in conflict with the law (hereafter referred to as **the in-home program**). I have been told that **I have been assigned to the in-home group** and will receive counseling in my home or where I am living in the community.

I have been informed that the **in-home program** is a new program which attempts to reduce my risk of re-offending and to promote my psychological well-being. I have been told that:

- the program emphasizes the role of personal coping strategies, family supports, and community supports, for achieving these results,
- this treatment is **expected to be no less effective** than the treatment normally provided at the Centrepoint clinic,
- there are **no known risks or hazards** associated with the in-home program,
- some family members will be included in my treatment,
- I will be required to complete some additional assessment measures and assignments during the course of treatment, because of my participation in the research,
- the information obtained in the assessment measures, and any other information collected by the in-home therapist, may be used in a confidential manner in order to evaluate the effectiveness of the program.

In addition I understand that:

- my participation in the in-home program is **completely voluntary**,
- **other members of my family**, or other people residing in my home, may also be asked to assist in my treatment, with consent,

- **people residing outside of my home** may be asked to assist in my treatment, **but written consent will be obtained from me, and my guardian,** before these people are contacted or involved,
- information collected during treatment will be used to evaluate the effectiveness of the in-home program compared to the treatment offered at the Centrepoint clinic and may be included in published reports,
- I may request to see any documentation collected during the course of the in-home treatment which refers to my treatment,
- that all information collected will be handled in a confidential manner and no names or any other information will be used, which might serve to identify me, or any other individual who participates in my treatment,
- I am **free to withdraw consent and** will be able to receive all of the usual services provided at the Centrepoint clinic and that no consequences will result from my decision to withdraw consent,
- my **guardian is free to withdraw from participation** in the in-home program and that in this case I may continue to receive counseling in the home or my guardian may request that counseling be provided at the Centrepoint clinic and no consequences will result from this decision.

My signature below indicates that this consent form has been explained to me and I understand and agree to the conditions as they are outlined above.

Name of adolescent

Signature of adolescent

Date

Name of therapist

Signature of therapist

Date

September 14, 1998

Adolescent consent for assignment to the control group in the research program evaluating an integrated, home-based treatment for adolescents in conflict with the law
(Alberta Hospital Edmonton)

I, ____________________, an adolescent referred to the Centrepoint Program for counseling, have agreed to participate in a research program evaluating an **integrated, home-based program for adolescents** in conflict with the law (hereafter referred to as **the in-home program**). I have been told that **I have been assigned to the control group** and will receive counseling as usual at the Centrepoint Clinic in downtown Edmonton.

I understand that:

- my participation in the research program is **completely voluntary,**
- I will be required to complete some additional assessment measures and assignments during the course of treatment, because of my participation in the research,
- the information obtained in the assessment measures, and any other information collected by my therapist during treatment, may be used in a confidential manner in order to evaluate the effectiveness of the treatment provided in comparison to the treatment offered in the integrated, in-home program,
- I may request to see any documentation collected during the course of my treatment which refers to my treatment,
- that all information collected will be handled in a confidential manner and no names or any other information will be used, which might serve to identify me, or any other individual who participates in my treatment,
- I am **free to withdraw from the control group** at any time and will continue to receive all of the usual services provided at the Centrepoint clinic and no consequences will result from my decision to withdraw consent,
- my **guardian may also ask that I be removed from the control group at any time** and I will continue to receive all of the usual services provided at the Centrepoint clinic and no consequences will result from my decision to withdraw consent.

September 14, 1998

My signature below indicates that this consent form has been explained to me and I understand and agree to the conditions as they are outlined above.

Name of adolescent	Name of therapist
Signature of adolescent	Signature of therapist
Date	Date

Guardian consent for assignment to the treatment group in the research program evaluating an integrated, home-based treatment for adolescents in conflict with the law
(Alberta Hospital Edmonton)

I, ________________________, the legal guardian of ______________, who has been referred to the Centrepoint Program for counseling, have agreed to participate in a research program evaluating an **integrated, home-based program for adolescents in** conflict with the law (hereafter referred to as the **in-home program**). Further, I have been told that the adolescent named above **has been assigned to the in-home group** and will receive counseling in my home, or wherever he is residing in the community.

I have been informed that the **in-home program** is a new program which attempts to reduce an adolescent's risk of re-offending and promote psychological well-being. I have been told that:

- the program emphasizes the role of personal coping strategies, family supports, and community supports, for achieving these results,
- this treatment is **expected to be no less effective** than the treatment normally provided at the Centrepoint clinic,
- there are **no known risks or hazards** associated with the in-home program,
- some family members will also be included in treatment with consent,
- I will be required to complete some additional assessment measures and assignments during the course of treatment, because of my participation in the research,
- the information obtained in the assessment measures, and any other information collected by the in-home therapist, may be used in a confidential manner in order to evaluate the effectiveness of the program.

In addition I understand that:

- my participation in the in-home program is **completely voluntary,**
- **other members of my family**, or other people residing in my home, may also

be asked to assist in treatment with consent,

- **people residing outside of my home** may be asked to assist in my treatment, **but written consent will be obtained from me, and the adolescent referred to above,** before these people are contacted or involved,
- information collected during treatment will be used to evaluate the effectiveness of the in-home program compared to the treatment offered at the Centrepoint clinic and may be included in published reports,
- I may request to see any documentation collected during the course of the in-home treatment which refers to the treatment provided,
- that all information collected will be handled in a confidential manner and no names or any other information will be used, which might serve to identify me, or any other individual who participates in my treatment,
- the adolescent named above is **free to withdraw consent** and will be able to receive all of the usual services provided at the Centrepoint clinic and that no adverse consequences will result from his decision to withdraw consent,
- **I am free to withdraw from participation** in the in-home program and that in this case the adolescent may continue to receive counseling in the home or I may request that counseling be provided at the Centrepoint clinic, and no adverse consequences will result from this decision.

My signature below indicates that this consent form has been explained to me and I understand and agree to the conditions as they are outlined above.

Name of guardian	Name of therapist
Signature of guardian	Signature of therapist
Date	Date
Name of referred adolescent	

September 14, 1998

Guardian consent for assignment to the control group in the research program evaluating an integrated, home-based treatment for adolescents in conflict with the law

(Alberta Hospital Edmonton)

I, ________________________, the legal guardian of _______________, who has been referred to the Centrepoint Program for counseling, have agreed to participate in a research program evaluating an **integrated, home-based program for adolescents** in conflict with the law (hereafter referred to as the **in-home program**). Further, I have been told that the adolescent named above **has been assigned to the control group** and will receive counseling as usual at the Centrepoint Clinic in downtown Edmonton.

I understand that:

- my participation in the research program is **completely voluntary,**
- I will be required to complete some additional assessment measures and assignments during the course of treatment, because of my participation in the research,
- the information obtained in the assessment measures, and any other information collected by my therapist during treatment may be used in a confidential manner in order to evaluate the effectiveness of the treatment provided in comparison to the treatment offered in the integrated, in-home program,
- I may request to see any documentation collected during the course of treatment which refers to the adolescent in my care,
- that all information collected will be handled in a confidential manner and no names or any other information will be used, which might serve to identify me, or any other individual who participates in my treatment,
- I am **free to withdraw from the control group at any time** and the adolescent in my care will continue to receive all of the usual services provided at the Centrepoint clinic and no consequences will result from my decision to withdraw consent,
- **the adolescent in my care may also ask to be removed from the control group at any time** and will continue to receive all of the usual services provided at the Centrepoint clinic and no consequences will result from his decision to withdraw consent.

September 14, 1998

My signature below indicates that this consent form has been explained to me and I understand and agree to the conditions as they are outlined above.

Name of guardian

Name of therapist

Signature of guardian

Signature of therapist

Date

Date

Adolescent consent for assignment to the treatment group in the research program evaluating an integrated, home-based treatment for adolescents in conflict with the law
(Alberta Hospital Edmonton)

I, ____________________, an adolescent referred to the Centrepoint Program for counseling, have agreed to participate in a research program evaluating an **integrated, home-based program for adolescents** in conflict with the law (hereafter referred to as the **in-home program**). I have been told that **I have been assigned to the in-home group** and will receive counseling in my home or where I am living.

I have been informed that the **in-home program** is a new program which attempts to reduce my risk of re-offending and to promote my psychological well-being. I have been told that:

- the program emphasizes the role of personal coping strategies, family supports, and community supports, for achieving these results,
- this treatment is **expected to be no less effective** than the treatment normally provided at the Centrepoint clinic,
- there are **no known risks or hazards** associated with the in-home program,
- some family members will be included in my treatment,
- and I will be required to complete some additional assessment measures and assignments during the course of treatment.

In addition I understand that:

- my participation in the in-home program is **completely voluntary,**
- **other members of my family,** or other people residing in my home, may also be asked to assist in my treatment, with consent,
- **people residing outside of my home** may be asked to assist in my treatment, **but written consent will be obtained from me, and my guardian,** before these people are contacted or involved,
- information collected during treatment will be used to evaluate the effectiveness of the in-home program compared to the treatment offered at the Centrepoint clinic and may be included in published reports,

- I may request to see any documentation collected during the course of the in-home treatment which refers to my treatment,
- that ~~all~~ information collected will be handled in a confidential manner and no names or any other information will be used, which might serve to identify me, or any other individual who participates in my treatment,
- I am **free to withdraw consent and** will be able to receive all of the usual services provided at the Centrepoint clinic and that no consequences will result from my decision to withdraw consent,
- my **guardian is free to withdraw from participation** in the in-home program and that in this case I may continue to receive counseling in the home or my guardian may request that counseling be provided at the Centrepoint clinic and no consequences will result from this decision.

My signature below indicates that this consent form has been explained to me and I understand and agree to the conditions as they are outlined above.

Name of adolescent	Name of therapist
Signature of adolescent	Signature of therapist
Date	Date

Feb 9, 1999

Adolescent consent for use of treatment information to evaluate the effects of treatment in the Centrepoint Program compared to the effects of treatment in a home-based treatment program for adolescents on probation
(Alberta Hospital Edmonton)

I, ______________________, an adolescent referred to the Centrepoint Program for counseling, agree that information gathered during my treatment in the Centrepoint Program can be used compare the effect of treatment in the Centrepoint Program with the effect of treatment in a home-based program for adolescents on probation.

I understand that:

- the information that will be collected consists of information obtained from standardized assessment measures, and any other information collected by my therapist during treatment,
- this information is collected by my therapist anyway so I will not be required to do more work because I have agreed to let my information be used,
- no benefits or special treatment will be given to me if I agree to let my information be used
- my consent is completely voluntary and I will not suffer any negative consequences if I refuse to let my information be used or if I withdraw consent,
- I can withdraw my consent at any time and I will continue to receive the treatment I was receiving, and all of the usual services provided at the Centrepoint clinic,
- no other negative consequences will happen if I withdraw consent, and no information collected before my decision to withdraw will be used for this specific project,
- I can ask to see any information collected during the course of my treatment which relates to my treatment.

I also understand

- that all information collected will be handled in a confidential manner and no names or any other information will be used, which might serve to identify me, or any other individual who participates in my treatment,

- that the results of this research may be compared to other programs for adolescents on probation, or they may be published or discussed in public settings, but my identity and the identity of anyone who receives treatment with me, will not be revealed.

My signature below indicates that this consent form has been explained to me and I understand and agree to the conditions as they are outlined above.

Name of adolescent	Name of therapist
Signature of adolescent	Signature of therapist
Date	Date

If you have any other questions you can talk to Philip, your therapist at Centrepoint.

Feb 9, 1999

Guardian consent for use of treatment information to evaluate the effects of treatment in the Centrepoint Program compared to the effects of treatment in a home-based treatment program for adolescents in conflict with the law (Alberta Hospital Edmonton)

I, ______________________ , the legal guardian of ____________________, who has been referred to the Centrepoint Program for counseling, agree that information gathered during treatment can be used to compare the effects of treatment in the Centrepoint Program to the effects of treatment in a home-based program for adolescents on probation.

I understand that:

- the information that will be collected consists of information obtained from standardized assessment measures which will be completed during treatment, and any other information collected during treatment,
- this information is collected by the therapist working with the adolescent named above anyway and I will not be required to do additional work because I have agreed to let this information be used,
- no benefits or special treatment will be given to me or the adolescent named above if I consent to the use of treatment information for this project,
- my consent is completely voluntary and no negative consequences will result if I refuse to let treatment information be used or if I withdraw my consent,
- I can withdraw my consent at any time and the adolescent named above will continue to receive all of the usual services provided at the Centrepoint clinic,
- no other negative consequences will occur if I withdraw consent, and no information gathered before my decision to withdraw consent will be used for this specific project,
- I can ask to see any documentation collected during the course of treatment which relates to the treatment of the adolescent named above,
- the adolescent named above must also provide written consent for the use of information gathered in treatment and can also withdraw consent at any time,
- all conditions relating to the use of information described above will also apply if the adolescent named above refuses or withdraws consent.

I also understand that:

- all information collected will be handled in a confidential manner and no names or any other information will be used, which might identify me, the adolescent named above, or any other individual who participates in treatment,
- the results of this project may be compared to results from other programs designed to help adolescents on probation, or they may be published, but my identity, the identity of the adolescent named above, and the identity of anyone else who participates in treatment, will not be revealed.

My signature below indicates that this consent form has been explained to me and I understand and agree to the conditions as they are outlined above.

Name of guardian	Name of therapist
Signature of guardian	Signature of therapist
Date	Date

If you have any other questions you can talk to Philip, your therapist at Centrepoint.

Guardian consent for assignment to the treatment group in the research program evaluating an integrated, home-based treatment for adolescents in conflict with the law
(Alberta Hospital Edmonton)

I, ________________________, the legal guardian of _______________, who has been referred to the Centrepoint Program for counseling, have agreed to participate in a research program evaluating an **integrated, home-based program for adolescents** in conflict with the law (hereafter referred to as the **in-home program**). Further, I have been told that the adolescent named above **has been assigned to the in-home group** and will receive counseling in my home or wherever he is living in the community.

I have been informed that the **in-home program** is a new program which attempts to reduce an adolescent's risk of re-offending and promote psychological well-being. I have been told that:

- the program emphasizes the role of personal coping strategies, family supports, and community supports, for achieving these results,
- this treatment is **expected to be no less effective** than the treatment normally provided at the Centrepoint clinic,
- there are **no known risks or hazards** associated with the in-home program,
- some family members will also be included in treatment with consent,
- and I will be required to complete some additional assessment measures and assignments during the course of treatment.

In addition I understand that:

- my participation in the in-home program is **completely voluntary,**
- **other members of my family,** or other people residing in my home, may also be asked to assist in treatment with consent,
- **people residing outside of my home** may be asked to assist in my treatment, **but written consent will be obtained from me, and the adolescent referred to above,** before these people are contacted or involved,
- information collected during treatment will be used to evaluate the effectiveness of the in-home program compared to the treatment offered at the Centrepoint

clinic and may be included in published reports,

- I may request to see any documentation collected during the course of the in-home treatment which refers to the treatment provided,
- that all information collected will be handled in a confidential manner and no names or any other information will be used, which might serve to identify me, or any other individual who participates in my treatment,
- the adolescent named above is **free to withdraw consent** and will be able to receive all of the usual services provided at the Centrepoint clinic and that no adverse consequences will result from his decision to withdraw consent,
- **I am free to withdraw from participation** in the in-home program and that in this case the adolescent may continue to receive counseling in the home or I may request that counseling be provided at the Centrepoint clinic, and no adverse consequences will result from this decision.

My signature below indicates that this consent form has been explained to me and I understand and agree to the conditions as they are outlined above.

______________________ Name of guardian	Name of therapist
______________________ Signature of guardian	Signature of therapist
______________________ Date	Date

Name of referred adolescent

Feb 9, 1999

APPENDIX 4

A HIGH RISK RECOGNITION PROGRAM FOR CRIMINAL BEHAVIOURS: PROMOTING CRIME FREE BEHAVIOUR

(PARTICIPANT MANUAL)

A High Risk Recognition Program for Criminal Behaviours:

Promoting Crime-free Behaviour

In-home Treatment Program
Provincial Mental Health Advisory Board

Participant Manual

January 1999

Introduction to the High Risk Program

This program tries to help you understand your criminal offenses and identify ways to reduce your risk of re-offending in the future. Because you have committed at least one criminal offense you are at risk for offending again in the future.

We know that a significant portion of young offenders re-offend. For example, in a sample of Canadian young offenders remanded for a psychiatric assessment, about 60% were found to have re-offended within one year. Of those, 75% re-offended within the first three months. Even higher rates of re-offense would be expected if you followed these individuals for a greater length of time. Also, this only includes official re-arrest, and does not include re-offending which went undetected by authorities.

We know additional facts about who is most likely to re-offend. The more offenses you have on your record now, the greater risk you have of re-offending. The younger you were when you were first arrested, the greater risk you have of re-offending. And the more "varied" your offenses have been so far (e.g., both property and violent offenses), the greater risk you have of re-offending. So, having multiple and various past offenses from an early age increases your risk to re-offend.

There is no cure for criminal behaviour. However, there are things you can do to help prevent re-offense. Indeed, anytime you don't re-offend, you are behaving in a non-criminal manner. This material will only focus on those reasons over which you have some control. Ultimately, it is you who decides whether you are going to remain offense-free or whether you are going to commit another offense.

This manual has been prepared for the Adolescent In-home program offered through the Centrepoint Program for Young Offenders and the Provincial Mental Health Advisory Board. It was adapted from a manual prepared for the Turningpoint Program for Young Offenders which was prepared by Dr. Andrew Howell and Richard Enns.

Goal of the High Risk Program

In this program you will learn to plan and prepare strategies to cope with future high risk situations in a way that reduces your danger of re-offending.

You will learn to:

1. identify the patterns of behaviours, thoughts, and feelings that place you at risk to re-offend.
2. Use techniques to plan, develop, and implement coping strategies to avoid the relapse process.

In order to meet our goal, you will need to (adopted from Kahn, 1990):

1. Accept full responsibility for your criminal behaviour,
2. Develop an understanding of the thoughts, feelings, and behaviours that led to your offenses,
3. Identify high-risk situations that could lead to further offending,
4. Develop strategies to cope with high risk situations,
5. Learn and demonstrate responsible day-to-day behaviours which include avoiding high risk situations in every activity you engage in.

Why should I participate in this program?

By never offending again:

a. I will not hurt other people, my family, or myself, through crime

b. I will never have to be incarcerated again, or be on probation,

c. I will be in a better position to exert control over the future by avoiding high risk situations and preventing re-offense,

d. I am more likely to feel happy, be productive, and have better relationships withe my family and other people I care about and,

e. I will be able to build upon ways of avoiding crime that I already know.

1. Accepting Responsibility

In order to change, you must take responsibility for your past mistakes and behaviours and be honest about what you have done.

The opposite of honesty is untruthfulness. It is common for people to lie about what they've done, perhaps so they don't look bad or don't have to acknowledge the impact of their actions upon others. We call this denial. This lying or denial is reflected in your thoughts about your past offenses, which may or may not be shared with others. Examples of these include:

> "I wasn't there, it was someone else."
>
> "Nothing happened, I've been framed."
>
> "I didn't know what I was doing, I was drunk."
>
> "Now that I know it's wrong I'll never do it again. I'm cured."
>
> "I didn't hurt anyone. I don't know care what I do, there is nothing wrong with it."

Other people lie about what they've done in a different way. They want to look worse, perhaps to impress their peers, and they exaggerate their past:

> "I've committed 150 armed robberies."
>
> "I'm the best car thief in town."
>
> "I beat the crap out of him."

The way you talk about your crime may lie anywhere on a line between denial on the one end and exaggeration on the other end.

Denial Honesty Exaggeration

In order to benefit from this program you must talk honestly about your crimes. That means you shouldn't deny what you have done but you shouldn't exaggerate or brag about your crimes either.

Much of your denying involves thoughts that you have about your offenses that make you feel less bad about them (see above). You can also deny by engaging in various behaviours, such as avoiding talking about your offenses, avoiding your victims, stuffing your feelings, drinking, etc.

What forms of denial have each of you engaged in?

2. Building a Behavioural Chain

Criminal offenses do not just happen. Many adolescents believe that offenses are isolated events that happen impulsively and without warning.

If you are to successfully prevent relapse, you must first recognize and take responsibility for the sequence of behaviours (and thoughts and emotions) which lead to your criminal behaviours. It is only after the behaviours, thoughts and feelings leading up to your crimes are identified that you will be able to plan, practise and implement coping responses that will prevent relapse.

Offenses are a culmination of a long series or chain of events. Each behaviour, thought, and emotion makes up a link in the chain. When put together they form a complex cycle, that may be acted out over and over. Deviant behaviour can be broken only by breaking or removing one or more events in the chain.

A behavioral chain is a series of behaviours that are connected and follow one after another. Like any chain, it is made up of small connected links. When one link moves, it influences the next one, which influences the next one, and so on.

A behavioral chain has a beginning and an end. When you initiate the chain of behaviours, eventually the end of the chain will also be affected. Many people have a regular morning routine, in which they get up, have a shower, get dressed, eat breakfast, leave the house, and go to school. Can you come up with other examples of behavioral chains (e.g., washing your car, cleaning your room, washing dishes)?

Consider the chain of behaviours involved in washing a car.

Drive car onto driveway.
Collect hose, bucket, soap, sponge, chamois.
Turn on water
Rinse car with hose.
Wash car with soap, water, and sponge.
Rinse car with hose.
Dry car with chamois.
Return clean car to garage, put away materials.

You can construct a behaviour chain for many different activities, like washing a car, or committing a crime. You will be asked to complete a behaviour chain for some of the crimes you have committed. Before you do that, take a look at the example below. This is a copy of a chain by someone who actually committed a break and enter. After you look at that chain you will be given some instructions about how to complete your own.

I drop out of school and begin hanging around with old friends at the mall.

I quit part-time job in restaurant.

I skip meeting with therapist.

I argue with parents about what I'm doing with my life.

My father calls me a loser, I call him a jerk and storm out of the house.

I stay at friend's house, get drunk and begin talking about doing break and enter.

I grab a knife as I leave friend's house with friend.

I start checking out various houses to see which are likely to have no one home.

I tell friend there is no way we will be caught this time.

Offense: We break into house, smash things and take money and jewellery.

Behaviour following Offense: We leave house and joke about offense.

How do I construct my own Behaviour Chain?

To construct a simple behaviour chain:

1. Think back to the time just before your crime. Where were you? Who were you with? What were you doing?

2. Try to remember that time, and everything that was happening, as clearly as possible.

3. Start the chain at the time you first started to think about the possibility of offending.

4. Detail the most observable behaviours that led to the specific offense. You may want to think of how your actions would have looked if you had been videotaped. Do not include any thoughts or feelings at this point.

5. Steps in the chain should begin with the word "I" (eg., I went with my friends to the mall).

6. Emphasize what happened as opposed to why it happened.

7. List the events in the order they occurred.

8. Review your chain to make sure that you have listed only those behaviours that actually contributed to the offence

9. Delete any behaviours that decreased or had no impact on the event occurring.

Note: You may either work forwards or backwards, whichever seems to work the best for you.

3. Adding Thoughts and Feelings to the Chain

People do not just behave. Thoughts and feelings are also important aspects of human experience. Thoughts and feelings play an important role in your chains of criminal behaviour.

Often thoughts and feelings influence how you behave. For example, thinking about assaulting somebody may lead you to commit the assault. Similarly, feeling angry in the presence of a potential victim may lead you to commit an assaultive act.

Note the connection between what you think and how you feel. When you feel sad, you may think that life is horrible. On the other hand, when you think life is horrible, you may feel sad. Note also that feelings and thoughts may cause behaviours, but they also follow behaviours. For example, if you commit an offense, you may feel depressed or guilty and you may think that life is not worth living. All behaviours are accompanied, preceded, or followed by thoughts and feelings.

These are significant components of the chain of events that led you to your past offenses, and are called high risk thoughts and feelings.

The following questions and tips might help you identify your high risk thoughts and feelings.

> What were the thoughts and feelings that justified the next step in your behaviour chains?
>
> How did you give yourself permission to continue towards the offense?
>
> Pay particular attention to interpretations you placed on the events. These interpretations often reveal your own needs, wishes, and desires. Examples:
>
> "She asked for it -- she had it coming"
>
> "There's nothing wrong with stealing from a business -- nobody is going to miss

the stuff"

"If I just do it this once, it won't hurt anyone"

The above are examples of thinking errors. Like most offenders, you probably use different thinking errors that continue your offending. A thinking error is "a thought or statement which minimizes, rationalizes, justifies, excuses, or denies the true extent of a problem, feeling, or behaviour". Words such as "only," "just," "never," "always," or "but" are clues that you may be using a thinking error. Below is a list of common thinking errors used by young offenders:

It was an accident.

It was never planned.

I only did it once.

I was set up.

It just happened.

I didn't mean to do it.

It won't happen again.

I was just playing around.

He had it coming to him.

I wasn't thinking.

It wasn't very violent.

I didn't hurt anyone.

I was just playing around.

I was only joking.

On the next page you will see a completed chain which lists high risk behaviours in the left column and high risk thoughts and feelings in the right column. High risk thoughts are indicated by quotation marks.

I drop out of school, begin hanging out with friends at the mall.	"Now I'll never amount to anything" Bored, depressed.
I quit part-time job in restaurant.	"I don't need that crap". "I'm above that". Rebellious. Angry.
I skip meeting with therapist.	"I just don't have any time, and it's not helping anyway"!
I argue with parents about what I'm doing with my life.	"They don't care about me". Anger
Father calls me a "loser". I call him a "jerk" and walk out.	"Life sucks. I just don't care anymore". Hopeless.
I stay at friend's house, get drunk, and plan an offense.	"I guess I have no other choice but crime". Hopeless.
I grab a knife as I leave friend's house with friend.	"This is great". Excited, pumped up.
We start checking out various houses to break into.	"This will be the last time I do this". "Just this once". Excited
I tell friend there is no way we will get caught this time.	"This is a sure thing. Besides, we won't hurt anyone". Invulnerable.
Offense: We break into house, smash things and steal money.	Excited. Angry. Fearful.
Behaviour following Offense: Leave house, joke with friends about the theft.	"They think I'm pretty cool". Proud. No remorse.

4. Building Thoughts and Feelings Chains

Look at the behaviour chains you have already completed. In the right hand column of each page, write the thoughts and feelings you had at the time of the event that led you to continue towards the offense. Remember, high risk thoughts and feelings are those thoughts and feelings which seem to give you "permission" to commit a crime, or they may be used to justify or excuse your behaviours. Describe what you were thinking during each step in the chain and what your feelings were. Place your thoughts in quotation marks.

Offense	
Behaviour following Offense	

Offense

Behaviour following Offense

Offense

Behaviour following Offense

5. Identifying High Risk Factors

A high risk factor is anything that threatens your sense of control over your criminal offending and increases the probability of committing an offense. These include behaviours, thought, feelings, and situations. To identify high risk factors you should look at the behaviours, thoughts, and feelings that emerge across the offences that you have committed.

What are some examples of possible high risk factors?

Feeling depressed
Interpersonal stressors
Peer pressure
Alcohol or drug use
Possession of a weapon
Being with delinquent peers

Today you will begin to generate your own list of high risk factors. To do this you should:

1. Examine your own chains for behaviours, thoughts, and feelings that preceded your offenses.

2. Imagine any other behaviours, thoughts, and feelings that would likely put you at risk to commit a new offense sometime in the future.

3. On the following pages, write down those behaviours, thoughts, and feelings which increased the possibility of committing an offense.

High Risk Factors List

Name ______________________________ Date ____________________

Below list high risk behaviours, thoughts, and feelings that played a role in your past offenses.

High Risk Behaviours:

1.

2.

3.

4.

5.

6.

7.

8.

High Risk Thoughts:

1.

2.

3.

4.

5.

6.

7.

8.

High Risk Feelings:

1.

2.

3.

4.

5.

6.

7.

8.

6. Identifying Alternative Behaviours

Now that you have identified your high risk factors you are in a position to develop ways of intervening in the chain of events leading to a re-offense.

The high risk factors that you have identified should serve as danger signals, warning you of a risky situation in which your sense of self-control over your behaviour may be threatened.

You must learn how to handle or cope with these high risk situations. By coping we mean any effort you initiate that restores a sense of self-control over your behaviour, thoughts, and feelings.

Coping strategies include both different behaviours and different ways of thinking. In this section we are interested in the behaviours that seemed to lead up to past offenses, and alternative behaviours that might be used to get out of a risky situation in the future.

Two specific ways of breaking deviant chains of behaviour and reducing the danger of high risk situations are avoidance and escape.

Avoidance means that you stay away from high risk situations.

For example, one high risk behaviour is hanging around delinquent friends. Staying away from locations where such friends hang out would reduce the probability of committing an offense.

Another risk element may be possessing weapons or break and enter tools. Avoidance in this case would mean not purchasing these items or not accepting them from friends.

Escape involves leaving a high risk situation after it has started.

For example, if you were on your way to commit an armed robbery, escape would mean turning around, abandoning the plan, and going to talk to someone about what you were about to do.

Avoidance responses are always preferred to escape responses because it is harder to leave a situation once you are already in it.

Coping strategies that you can use early in your behavioural chain are easier to engage in and are more effective than strategies that you use later in the chain.

To generate alternate coping strategies to deal with high risk behaviours, one must adopt a problem solving approach. This means that you should think of alternative behaviours, or solutions, to use instead of the high risk behaviours. You should evaluate the "pros" and "cons" of each alternative, and then choose the solution that is associated with the most beneficial outcome.

We already know that you do not commit crimes every time you are feeling depressed or bored, or every time you argue with your parents. You need to think of those times when you haven't offended, even though there were high risk factors present, and consider what you did right, to reduce your risk of offending at that time.

Let's examine the behavioral chain from our example in order to come up with avoidance and escape behaviours to replace high risk behaviours. The goal is to identify as many alternative behavioral responses as possible and to select the best one.

1. Quitting school

Attend all classes and do homework so that you can keep up with classmates. Ask for additional tutoring by teachers. Look for alternative types of schooling, if necessary (eg., home schooling, vocational training) .

2. Arguing with parents

Use social skills so that you can accept negative feedback without becoming angry or aggressive. Allow yourself to calm down before going home to see parents.

Work out problems as they occur, and without letting feelings build up.

Attend family therapy to improve communication between family members.

3. Skipping appointments with therapist, probation officer, etc.

Attend all appointments. Do not book appointments at the same time. Express your concerns to therapist if therapy is not working. Phone ahead of time and explain your reasons for missing an appointment.

4. Hanging around with delinquent friends

Look for ways of meeting new friends -- team sports, school peers. Use social skills to resist peer pressure. Discuss with your friends your intention to stay away from crime. Make an attempt to "fit in" with non-delinquent peers. Hang around with people your own age. Leave the situation when friends begin to talk about criminal activities. Don't hang out at places where you will meet up with delinquent acquaintances.

5. Getting drunk

Avoid drinking altogether; avoid drinking large amounts of alcohol; no alcohol in house. Don't drink right after having an argument; rather, talk about your anger. Attend an Alcoholics Anonymous meeting. Dump alcohol or drugs down the drain or toilet.

6. Staking out a house to break into

Avoid hanging around neighbourhoods and looking for easy properties to break into. Leave and go and tell a support system when you have begun to look for an easy property to break into. Keep busy with more appropriate activities (e.g., recreational, work, school).

When are avoidance and escape responses unlikely to be effective?

a. When you fail to recognize the risk in the situation.

b. If the cost of escaping seems to outweigh the risk of offending (embarrassment; shame; ridicule)

Examine your high risk chains and your high risk factors list to identify your high risk behaviours. Then, on the worksheets provided below, list each high risk behaviour separately, along with three alternative behaviours or coping responses for each high risk behaviour. Once you have identified three coping responses for each high risk behaviour select the best coping response - the response that you are most likely to use and which is most likely to help you avoid or escape from a high risk situation. Once you have identified the best coping responses for all of your high risk behaviours write them on the Coping Skills List. Don't include high risk thoughts and feelings at this point.

Identifying Coping Responses for High Risk Behaviours

1. High Risk Behaviour ____________________

Coping Responses
1. ____________________
2. ____________________
3. ____________________

Best Coping Response ____________________

2. High Risk Behaviour ____________________

Coping Responses
1. ____________________
2. ____________________
3. ____________________

Best Coping Response ____________________

3. High Risk Behaviour ____________________

Coping Responses
1. ____________________
2. ____________________
3. ____________________

Best Coping Response ____________________

4. High Risk Behaviour ____________________

Coping Responses 1. ____________________

2. ____________________

3. ____________________

Best Coping Response ____________________

5. High Risk Behaviour ____________________

Coping Responses 1. ____________________

2. ____________________

3. ____________________

Best Coping Response ____________________

8. Identifying Alternative Thoughts

After you have identified alternative coping behaviours (both escape and avoidance) you need to focus on the thoughts and feelings associated with these behaviours, and other high risk situations. As stated previously, your thoughts and feelings are significant parts of the chains associated with your offenses. It is how you interpret certain events that leads you to react and behave in certain ways.

For any set of circumstances, there are a variety of ways to think about the events. It may be useful to consider how you think most other people would think or feel in certain situations.

Lets look at some situations that could be interpreted in more than one way:

a) Event: Your father grounds you for 3 nights.

Distorted Thought: "He hates me".

Alternative Thought: "I broke curfew and I have to pay the consequences. Anyway, it's only 3 days and I still get to listen to my stereo".

b) Event: Your friends don't include you in an outing.

Distorted Thought: "Nobody likes me"

Alternative Thought: "I wish they would have phoned me, but I guess they forgot. At least they told me about the party coming up on Friday"

c) Event: A peer steps on your foot.

Distorted Thought: "He did that on purpose. He's going to pay for that".

Alternative Thought: "What a clumsy guy"

d) Event: You get negative feedback from a teacher.

Distorted Thought: "She's got it out for me" or "I'm a failure".

Alternative Thought: "I'm not perfect and I can learn from feedback and do better in the future. She's doing her job. It doesn't mean I'm a failure".

Here are some distorted thoughts and alternative ways of thinking about things.

a) Distorted Thought: "No one cares about me so why should I care about them".

Why it's faulty: Very unlikely that no one cares for you; taking victim role. Likely consequences of this thought or belief is that the uncaring attitude towards others and feelings of deserving others may lead one to offend.

Alternative thoughts: I feel as though no one cares for me, but that doesn't mean I have to care less for them.

b. Distorted thought: "My stealing doesn't hurt anyone".

Why it's faulty: Stealing does hurt people, including the person you're stealing from, your family, and yourself. Likely consequences of this thought is that you will continue to steal.

Alternative thoughts: My stealing is a problem for myself, my family, and the person I'm stealing from. I need to stop this now.

c. Difficult feelings: Anger

Manage your anger by:
- taking a "time-out" to calm down
- using relaxation strategies you have learned
- use "I" statements to express your feelings
- use anger management techniques you have learned

Identifying Coping Responses for High Risk Thoughts and Feelings

On the following pages, for each of the high risk thoughts and feelings identified in your high risk chains or on your High Risk Factors List, generate 3 alternative thoughts or feelings you could use as a coping response and then pick the best alternative coping response. Add the best alternative responses to your Coping Skills List.

1. High Risk Thought or Feeling ____________________

Coping Responses
1. ____________________
2. ____________________
3. ____________________

Best Coping Response ____________________

2. High Risk Thought or Feeling ____________________

Coping Responses
1. ____________________
2. ____________________
3. ____________________

Best Coping Response ____________________

3. High Risk Thought or Feeling ____________________

Coping Responses
1. ____________________
2. ____________________
3. ____________________

Best Coping Response ____________________

4. High Risk Thought or Feeling ____________________

Coping Responses 1. ____________________

2. ____________________

3. ____________________

Best Coping Response ____________________

5. High Risk Thought or Feeling ____________________

Coping Responses 1. ____________________

2. ____________________

3. ____________________

Best Coping Response ____________________

6. High Risk Thought or Feeling ____________________

Coping Responses 1. ____________________

2. ____________________

3. ____________________

Best Coping Response ____________________

7. High Risk Thought or Feeling ________________________

Coping Responses

1. ________________________
2. ________________________
3. ________________________

Best Coping Response ________________________

8. High Risk Thought or Feeling ________________________

Coping Responses

1. ________________________
2. ________________________
3. ________________________

Best Coping Response ________________________

9. High Risk Thought or Feeling ________________________

Coping Responses

1. ________________________
2. ________________________
3. ________________________

Best Coping Response ________________________

Coping Skills List

1. ______________________________________

2. ______________________________________

3. ______________________________________

4. ______________________________________

5. ______________________________________

6. ______________________________________

7. ______________________________________

8. ______________________________________

9. ______________________________________

10. ______________________________________

11. ______________________________________

12. ______________________________________

13. ______________________________________

14. ______________________________________

15. ______________________________________

16. ______________________________________

Some things to remember:

Most high risk factors will not occur under ideal circumstances where you are ready, relaxed, and prepared. In reality there will be many competing demands, including embarrassment, anger, desire for immediate gratification, or intoxication, and these will interfere with using your new coping strategies. Because of this, newly developed coping responses must be over-learned, which means that you practice them over and over so that you will be able to use them automatically. Once they have become over-learned, they will become programmed into your behavioral repertoire.

Ideally, coping responses will become automatic and will replace your old, maladaptive behaviours. Intensive practise will ensure that you can perform the coping strategy in a variety of moods and situations.

9. Using your Coping Strategies: The 5-step model of coping

The 5-step model of coping described below can be used to help you cope with high risk factors in a planned and structured fashion, using the coping responses or strategies you have already identified.

1. Identify the high risk factor present.

   Example: I am finding myself thinking of stealing the car down the block.

2. Acknowledge the importance of coping.

   Example: No matter how fun it may be, the risk of returning to jail isn't worth it. That car is someone's prized possession.

3. Reassert your sense of self-control.

   Example: Even though I'm tempted, I'm still in control of my behaviour -- it is only my sense of control that is decreasing.

4. Select and implement a coping response.

   Example: In these types of situations I need to remind myself that I don't want to re-offend and I need to stay away from that car.

5. Self-reinforce effective responses.

   Example: Even though I felt tempted, I did a good job of coping with that situation.

Practising The 5-step Coping Strategy

Think of two scenarios in which high risk situations are present. For example, you are arguing with a peer who just called you a name and you think to yourself that "he's asking for it"!

Apply your five-step coping strategy to each scenario, using the following worksheets.

Scenario 1

Where are you and what is happening?

____

____

____

____

1. Identify the high risk factor present

____

____

____

____

2. Acknowledge the importance of coping

____

____

____

____

3. Reassert your sense of self-control

____

____

____

____

4. Select and implement a coping response

____

____

____

____

5. Self-reinforce effective responses

____

____

____

____

Scenario 2

Where are you and what is happening?

1. Identify the high risk factor present

2. Acknowledge the importance of coping

3. Reassert your sense of self-control

4. Select and implement a coping response

5. Self-reinforce effective responses

How did you do?

1. How effective were your coping responses?
2. Were there other coping responses you could have used but didn't have on your list?
3. What is the likelihood that you would use the coping strategy if the situation had been real?
4. Could you have used a coping strategy earlier in the situation?
5. Are there people who can help you use your coping strategies (parents, friends, teachers, relatives, a therapist or probation officer, etc.)?

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APPENDIX 5

COMPLETED CHAIN DETAILING HIGH RISK BEHAVIOURS, THOUGHTS, AND FEELINGS

(SAMPLE)

I drop out of school, begin hanging out with friends at the mall.	"Now I'll never amount to anything" Bored, depressed.
I quit part-time job in restaurant.	"I don't need that crap". "I'm above that". Rebellious. Angry.
I skip meeting with therapist.	"I just don't have any time, and it's not helping anyway"!
I argue with parents about what I'm doing with my life.	"They don't care about me". Anger
Father calls me a "loser", I call him a "jerk" and walk out.	"Life sucks. I just don't care anymore". Hopeless.
I stay at friend's house, get drunk, and plan an offense.	"I guess I have no other choice but crime". Hopeless.
I grab a knife as I leave friend's house with friend.	"This is great". Excited, pumped up.
We start checking out various houses to break into.	"This will be the last time I do this". "Just this once". Excited
I tell friend there is no way we will get caught this time.	"This is a sure thing. Besides, we won't hurt anyone". Invulnerable.
Offense: We break into house, smash things and steal money.	Excited. Angry. Fearful.
Behavior following Offense: Leave house, joke with friends about the theft.	"They think I'm pretty cool". Proud. No remorse.

APPENDIX 6

INTERVENTION TRACKING SHEET USED TO MONITOR TREATMENT INTEGRITY OF HOME-BASED PROGRAM

Intervention Tracking Sheet

File #: ____________________

Date file opened: ____________________

---

1. Treatment venue (please check all the locations where treatment was provided):
   - ☐ Centrepoint
   - ☐ Group home
   - ☐ Family home
   - ☐ Other home
   - ☐ School
   - ☐ Probation office
   - ☐ Law courts
   - ☐ Other community location: ________________
   - ☐ Edmonton Young Offender Centre

2. Please check off treatment format:
   - ☐ family therapy
   - ☐ marital (conjoint) therapy
   - ☐ individual therapy
     - ☐ adolescent
     - ☐ mother
     - ☐ father
     - ☐ other: ________________
   - ☐ other: ________________

3. Please indicate treatment approaches used during treatment:

- ☐ family therapy
    - ☐ structural
    - ☐ strategic
    - ☐ behavioral
    - ☐ Bowenian (family of origin)
    - ☐ psychodynamic
    - ☐ solution-focused
    - ☐ narrative
    - ☐ other: ____________________
- ☐ parent management training
- ☐ psychoeducational
    - ☐ mental health education
    - ☐ management of Conduct Disorder
    - ☐ management of ADHD
- ☐ individual therapy (adolescent)
    - ☐ relapse prevention
    - ☐ cognitive-behavioral
    - ☐ psychodynamic
    - ☐ solution-focused
    - ☐ Bowenian (family of origin)
    - ☐ referral:
- ☐ individual therapy (adult: ______________)
    - ☐ relapse prevention
    - ☐ cognitive-behavioral
    - ☐ psychodynamic
    - ☐ solution-focused
    - ☐ Bowenian (family of origin)
    - ☐ referral:

4a. Please indicate issues addressed with adolescent:

- ☐ criminal behaviors
- ☐ physical abuse
  - ☐ victim
  - ☐ perpetrator
- ☐ sexual abuse
  - ☐ victim
  - ☐ perpetrator
- ☐ substance abuse
- ☐ anger management
- ☐ peer relations
- ☐ parent-child conflict
- ☐ family of origin
- ☐ communication
- ☐ social skills
- ☐ problem solving
- ☐ school performance or refusal

4b. Please indicate issues addressed with adult(s):

- ☐ criminal behaviors
- ☐ physical abuse
  - ☐ victim
  - ☐ perpetrator
- ☐ sexual abuse
  - ☐ victim
  - ☐ perpetrator
- ☐ substance abuse
- ☐ anger management
- ☐ interpersonal relations
- ☐ parent-child conflict
- ☐ family of origin
- ☐ communication
- ☐ social skills
- ☐ problem solving
- ☐ job related
- ☐ financial